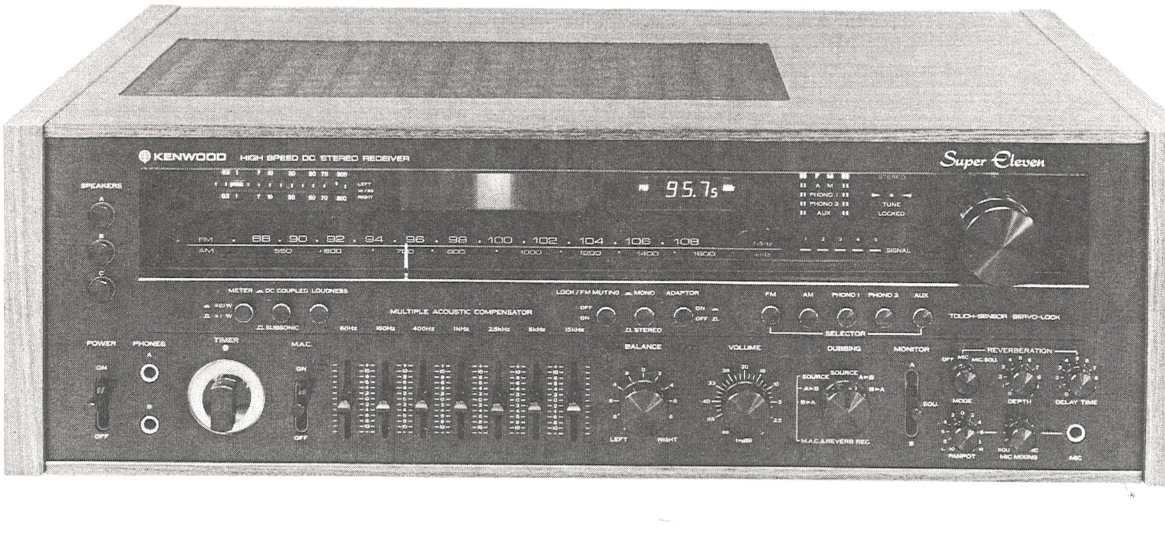
KENWOOD®
HI/FI STEREO COMPONENTS

SERVICE MANUAL

SUPER ELEVEN

An item of adjustment is written in three languages — English, French and German.
Un article sur les réglages est écrit en trois langues, Anglais, Français et Allemand.
Ein Artikel der Abgleich wird auf drei Sparchen. Englishe, Freanösisch und Deutsch geschriebn.


KENWOOD
HIGH SPEED DC STEREO RECEIVER
Super Eleven
95.7
SPEAKERS
POWER
PHONES
TIMER
MAC
MULTIPLE ACOUSTIC COMPENSATOR
BALANCE
VOLUME
DUBBING
MONITOR
REVERBERATION
SELECTOR
FM
AM
PHONO 1
PHONO 2
AUX
TOUCH-SENSOR SERVO-LOCK

HIGH SPEED DC STEREO RECEIVER

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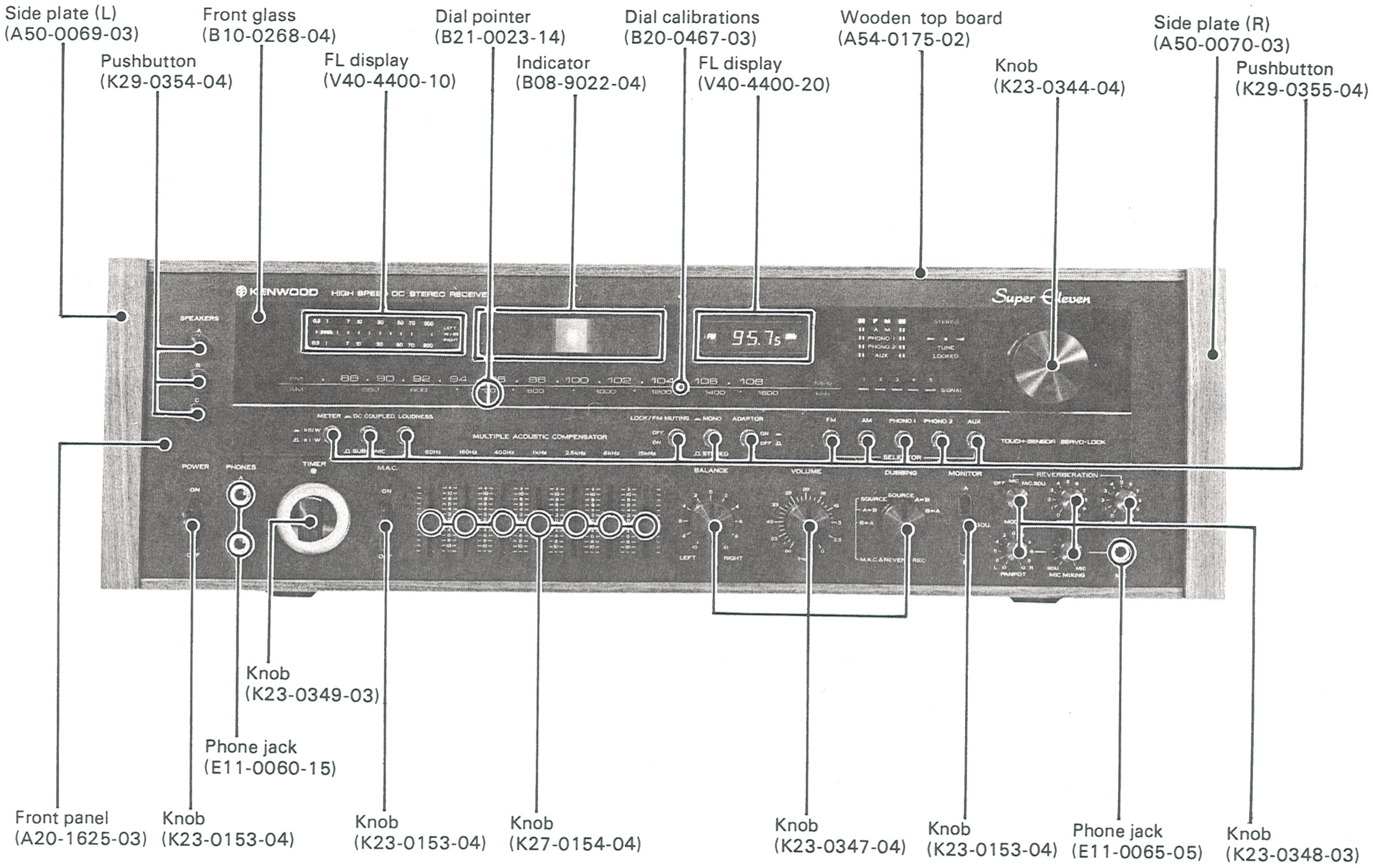
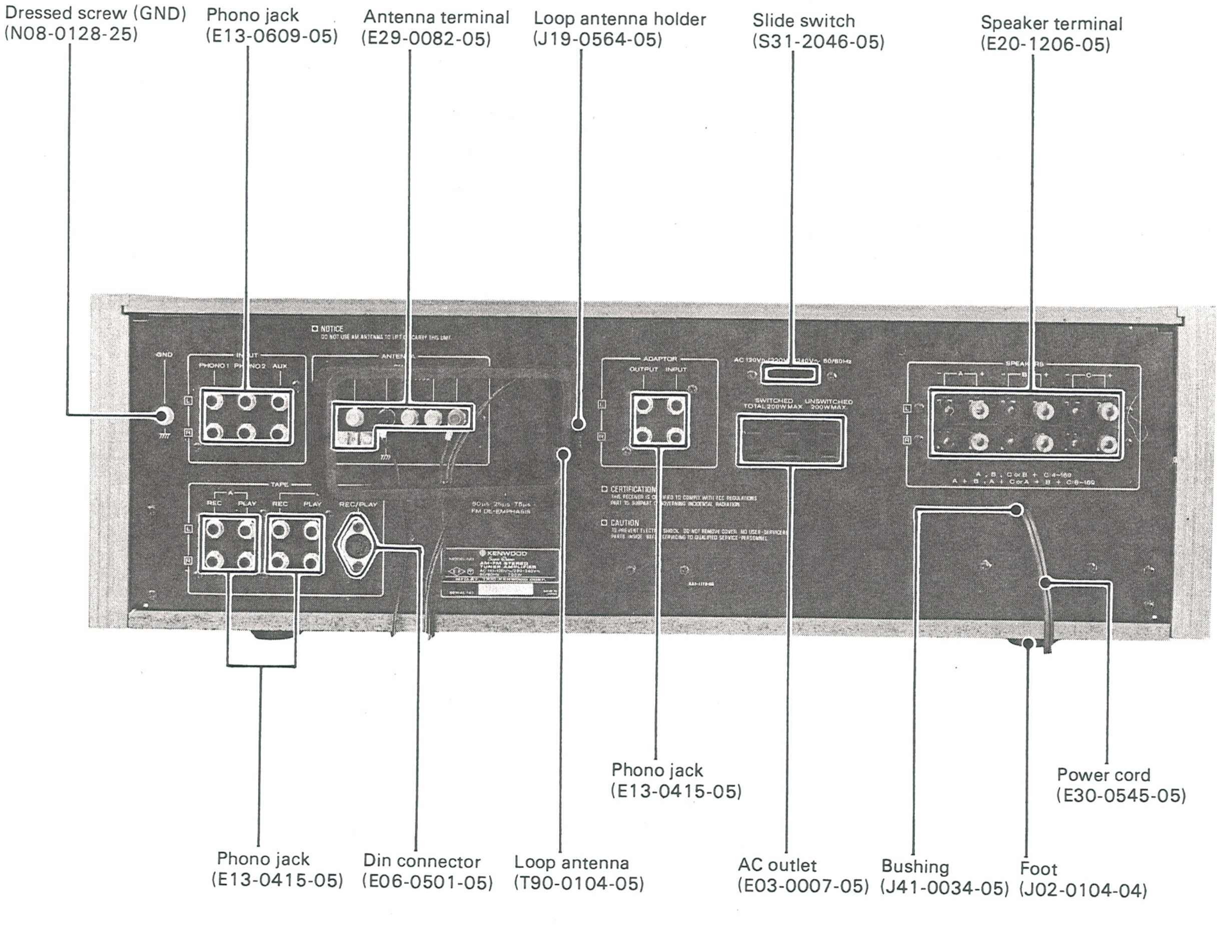
Note:
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the PX (U) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

Region	Code
U.S.A.	K
Canada	P
PX (Far East)	U
PX (Europe)	UE
Australia	X
Europe & Scandinavia	E
England	T
South Africa	S
Other Areas	M
Audio Club	H

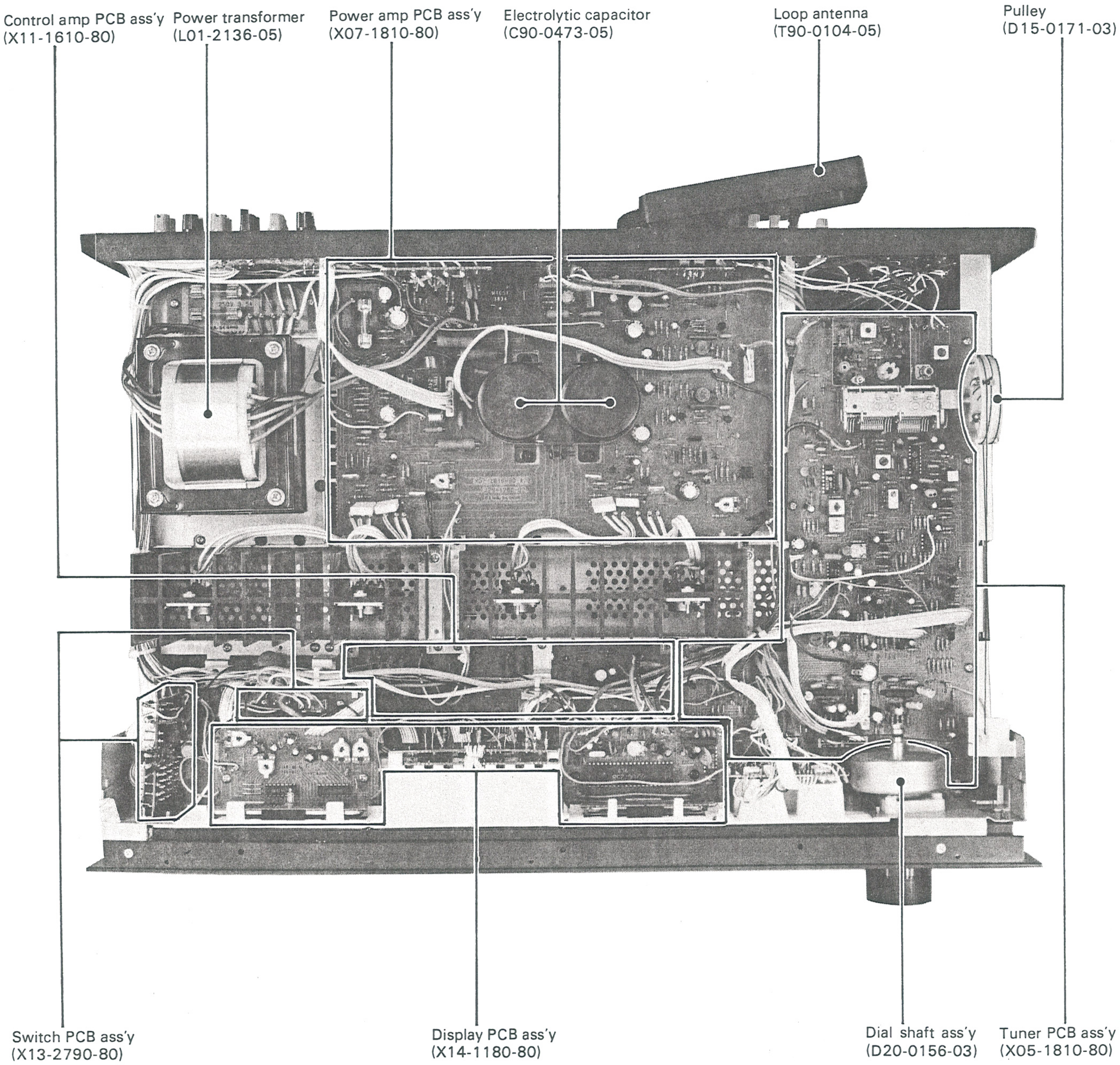
There is no plan for producing units of K, P, X, E, T and S types.

EXTERNAL VIEW

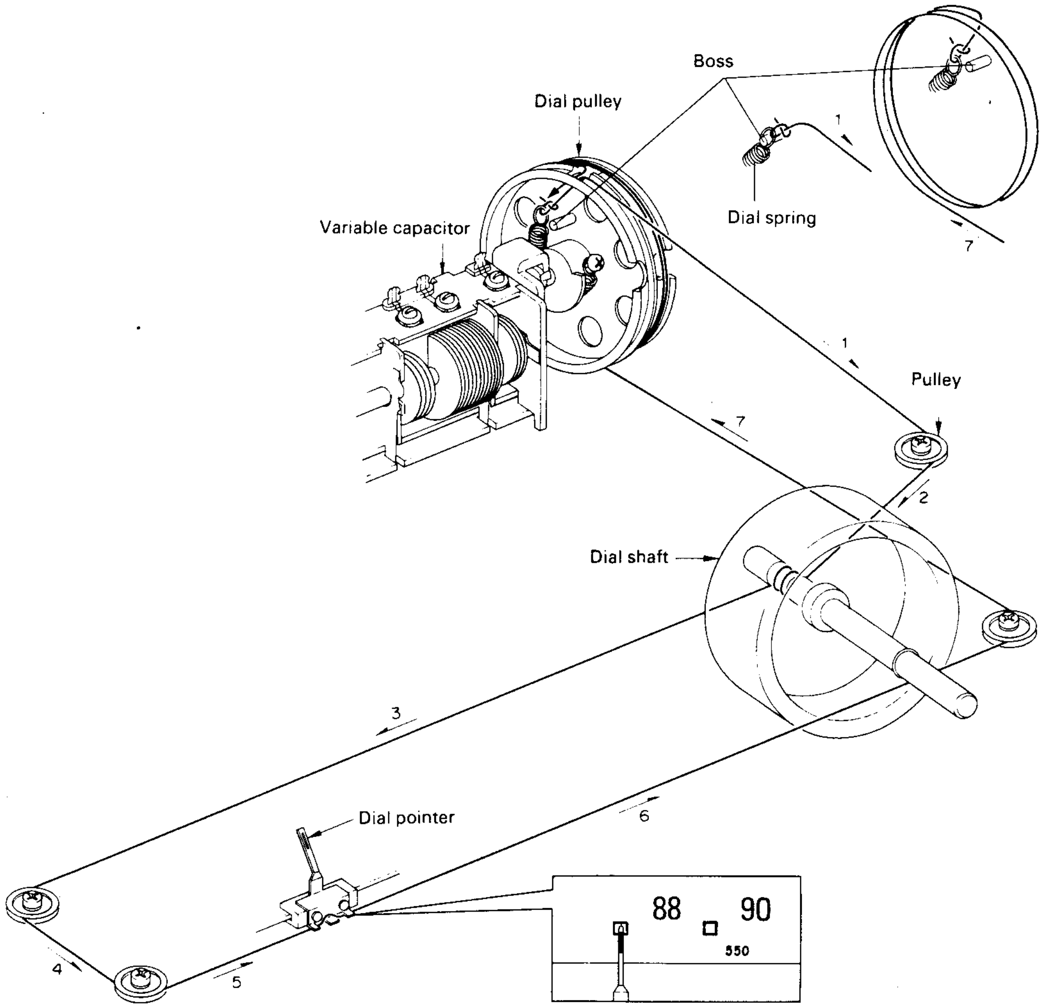

Side plate (L)
(A50-0069-03)
Front glass
(B10-0268-04)
Dial pointer
(B21-0023-14)
Dial calibrations
(B20-0467-03)
Wooden top board
(A54-0175-02)
Side plate (R)
(A50-0070-03)
Pushbutton
(K29-0354-04)
FL display
(V40-4400-10)
Indicator
(B08-9022-04)
FL display
(V40-4400-20)
Knob
(K23-0344-04)
Pushbutton
(K29-0355-04)
Knob
(K23-0349-03)
Phone jack
(E11-0060-15)
Front panel
(A20-1625-03)
Knob
(K23-0153-04)
Knob
(K23-0153-04)
Knob
(K27-0154-04)
Knob
(K23-0347-04)
Knob
(K23-0153-04)
Phone jack
(E11-0065-05)
Knob
(K23-0348-03)


Dressed screw (GND)
(N08-0128-25)
Phono jack
(E13-0609-05)
Antenna terminal
(E29-0082-05)
Loop antenna holder
(J19-0564-05)
Slide switch
(S31-2046-05)
Speaker terminal
(E20-1206-05)
Phono jack
(E13-0415-05)
Power cord
(E30-0545-05)
Phono jack
(E13-0415-05)
Din connector
(E06-0501-05)
Loop antenna
(T90-0104-05)
AC outlet
(E03-0007-05)
Bushing
(J41-0034-05)
Foot
(J02-0104-04)

INTERNAL VIEW


Control amp PCB ass'y
(X11-1610-80)
Power transformer
(L01-2136-05)
Power amp PCB ass'y
(X07-1810-80)
Electrolytic capacitor
(C90-0473-05)
Loop antenna
(T90-0104-05)
Pulley
(D15-0171-03)
Switch PCB ass'y
(X13-2790-80)
Display PCB ass'y
(X14-1180-80)
Dial shaft ass'y
(D20-0156-03)
Tuner PCB ass'y
(X05-1810-80)

DIAL CORD STRINGING

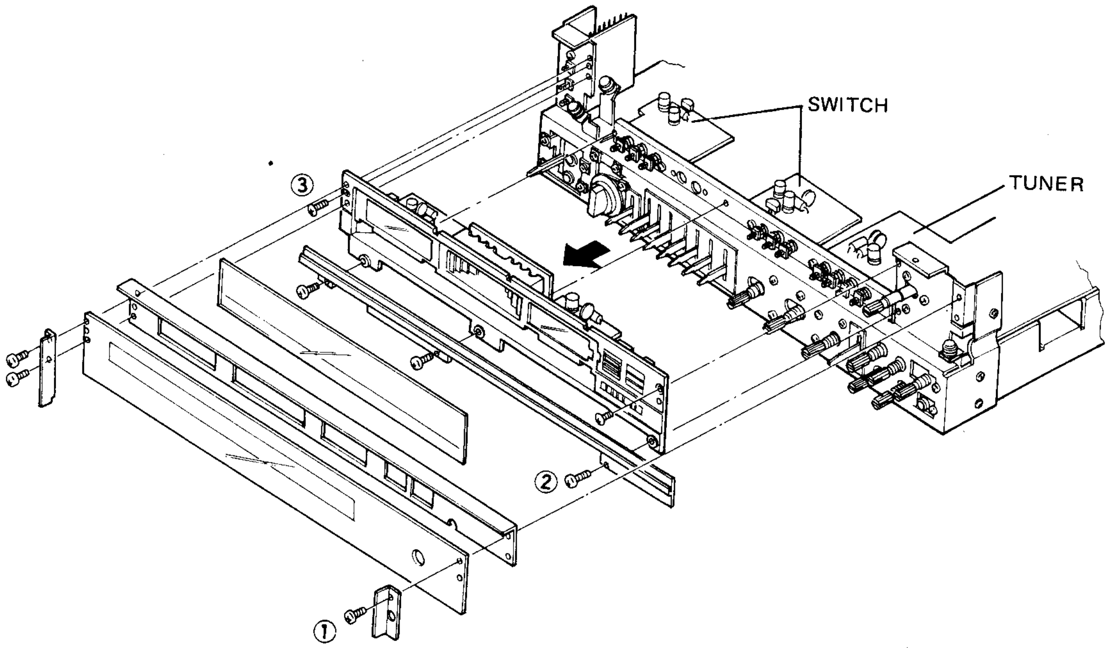

Boss
Dial pulley
Variable capacitor
Dial spring
1
7
1
Pulley
7
2
Dial shaft
3
Dial pointer
6
88
90
550
4
5

DIAL CORD STRINGING

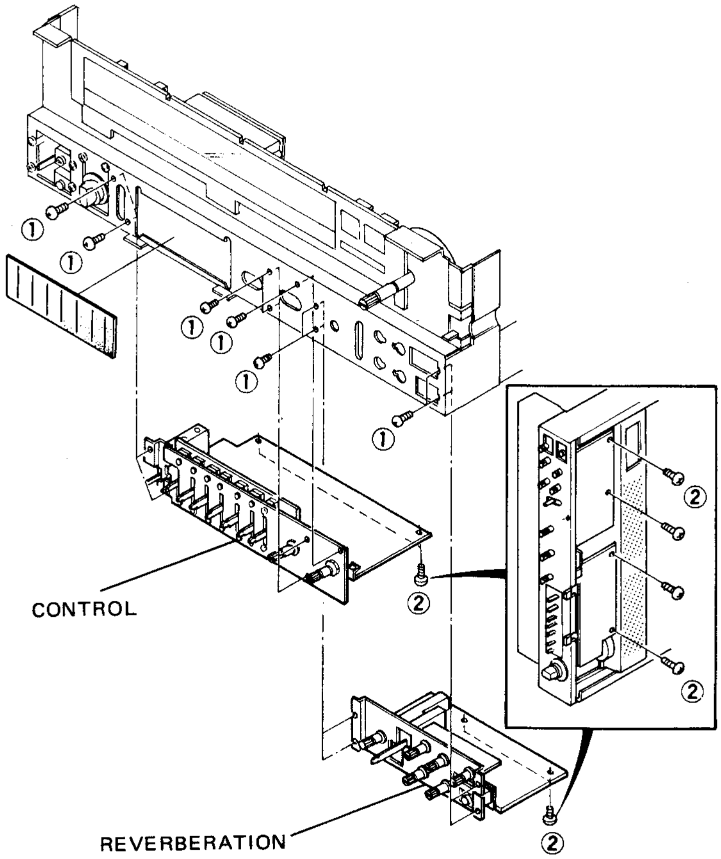
1. Fully open the variable capacitor.
2. Tie the end of the dial cord at the dial spring, giving a margin of about 10 cm. Hook the spring on the boss.
3. Set the dial pulley as illustrated and fix it with a screw.
4. Dress the dial cord in the direction of "1" to "2" and wind 2 turns around the dial shaft starting from its lower side.
5. Dress the dial cord in the direction of "3" through "7" and wind it 2 and a half turns around the dial pulley starting from its lower side.
6. Rigidly tie it with the margin cord and the dial spring (provided as described in 3) and release the dial spring from the boss.
7. Fully close the variable capacitor, then mount the dial pointer as illustrated.

DISASSEMBLY FOR REPAIR

SWITCH and TUNER PC BOARD

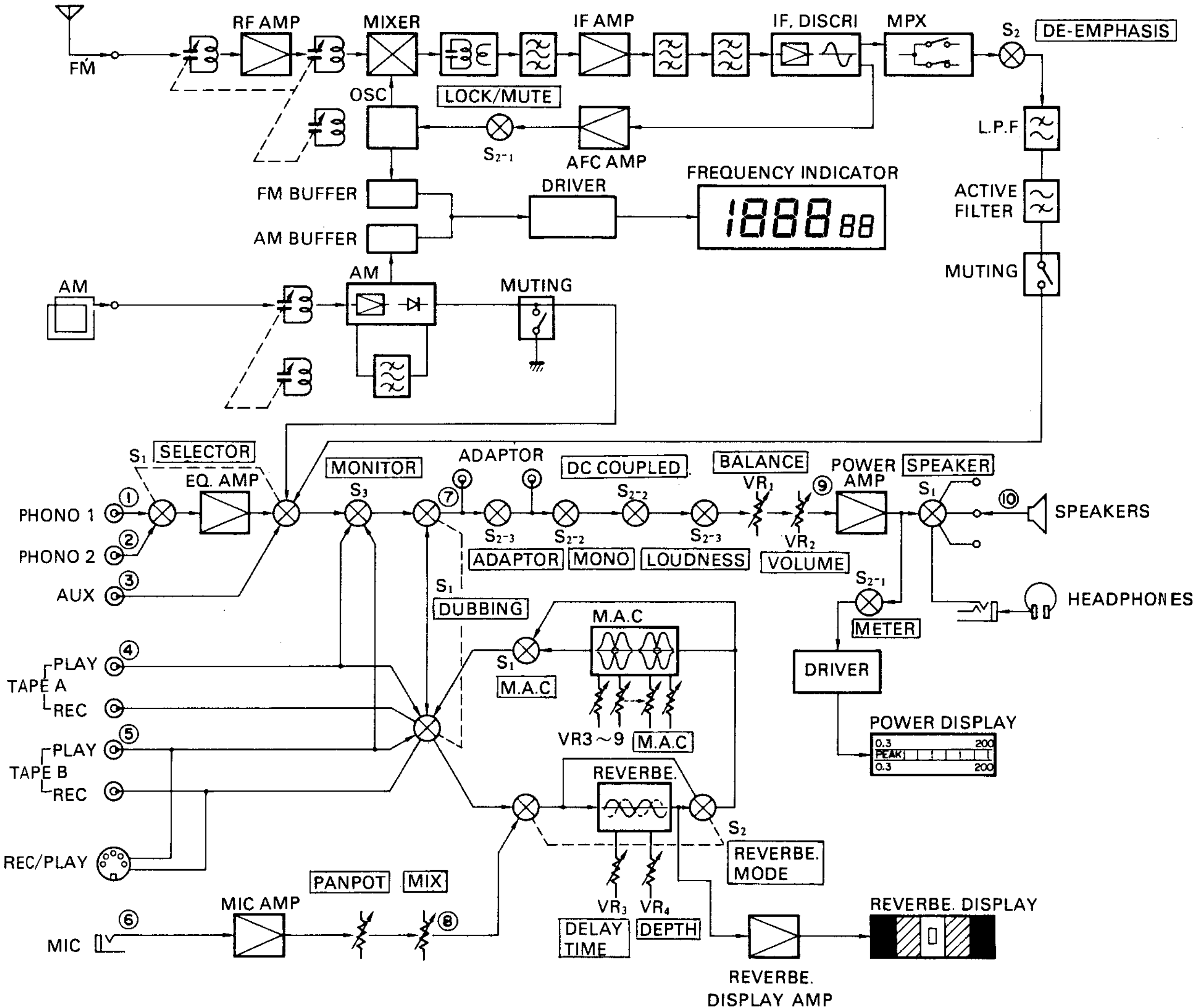

SWITCH
TUNER
③
②
①

CONTROL and REVERBERATION PC BOARD

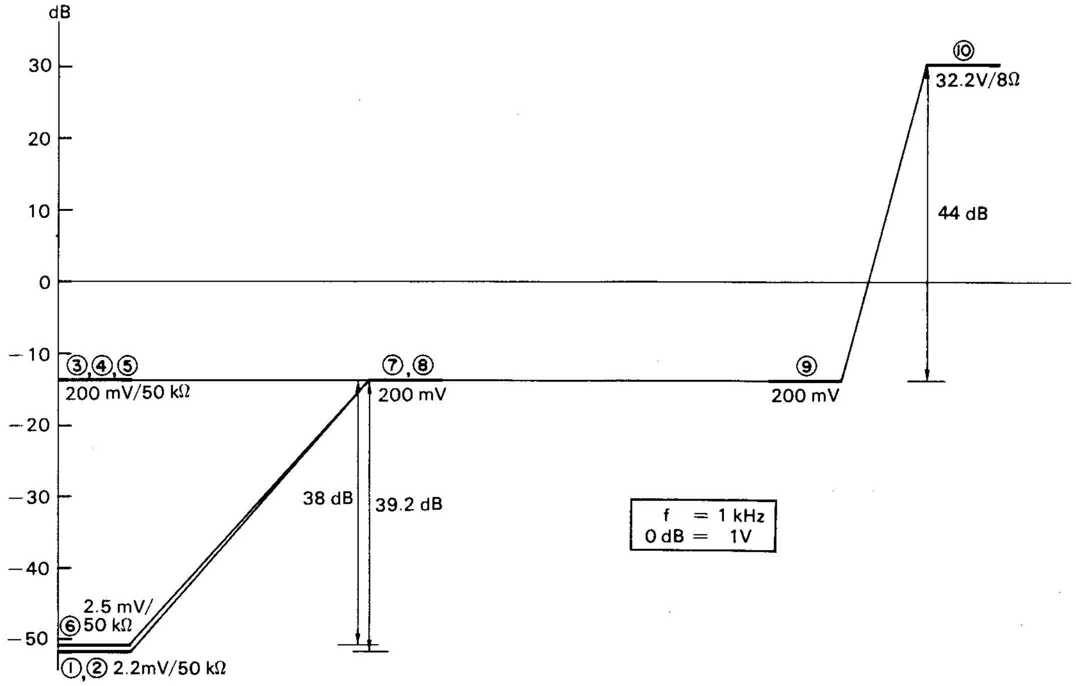

①
①
①
①
①
①
①
②
②
②
②
CONTROL
REVERBERATION

BLOCK AND LEVEL DIAGRAM

BLOCK DIAGRAM

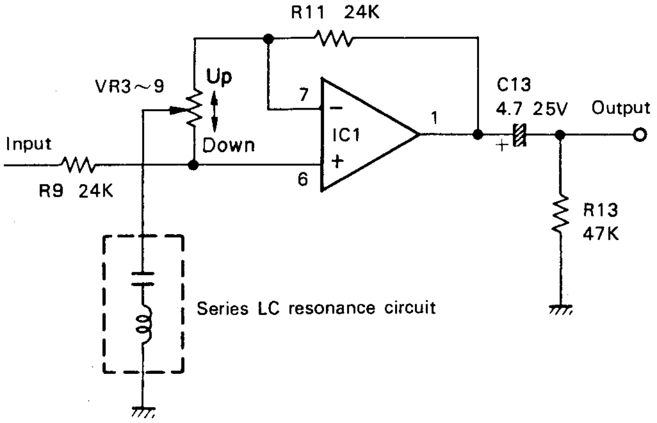

FM
RF AMP
MIXER
IF AMP
IF. DISCRI
MPX
S₂
DE-EMPHASIS
OSC
LOCK/MUTE
S₂₋₁
AFC AMP
L.P.F
ACTIVE FILTER
FM BUFFER
AM BUFFER
DRIVER
FREQUENCY INDICATOR
1888.88
AM
AM
MUTING
MUTING
S₁
SELECTOR
EQ. AMP
MONITOR
S₃
ADAPTOR
DC COUPLED
BALANCE
VR₁
POWER AMP
SPEAKER
S₁
SPEAKERS
PHONO 1 ①
PHONO 2 ②
AUX ③
⑦
⑨
⑩
S₂₋₃
S₂₋₂
S₂₋₂
S₂₋₃
ADAPTOR
MONO
LOUDNESS
VR₂
VOLUME
S₂₋₁
METER
HEADPHONES
S₁
DUBBING
M.A.C
S₁
M.A.C
VR3～9
M.A.C
DRIVER
POWER DISPLAY
0.3 PEAK 200
TAPE A PLAY ④
REC
TAPE B PLAY ⑤
REC
REC/PLAY
REVERBE.
S₂
REVERBE. MODE
PANPOT
MIX
MIC AMP
MIC ⑥
⑧
VR₃
VR₄
DELAY TIME
DEPTH
REVERBE. DISPLAY
REVERBE. DISPLAY AMP

LEVEL DIAGRAM

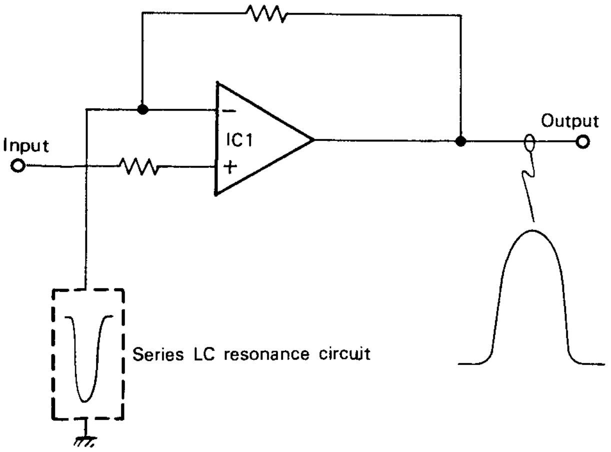


CIRCUIT DESCRIPTION

M.A.C. (Multiple Acoustic Compensator) circuit
The principle of operation of the M.A.C. circuit is shown below. A potentiometer is connected between the inverting and non-inverting input terminals and its center tap is connected to a series LC resonance circuit.

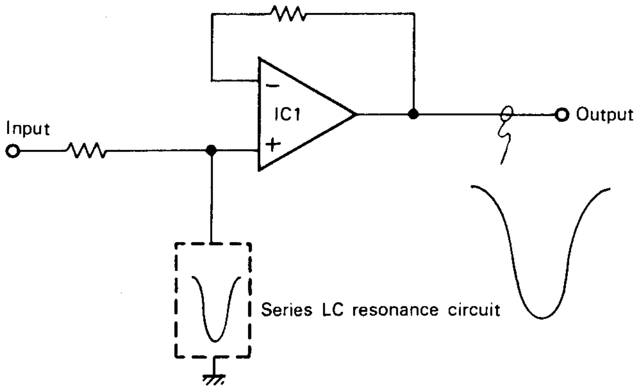

R11 24K
VR3~9
Up
Down
Input
R9 24K
7
6
1
IC1
C13
4.7 25V
Output
R13
47K
Series LC resonance circuit

When one of the slide potentiometers (VR3 ~ VR9) is slid up, the series LC resonance circuit is connected to the inverting input terminal, so that the negative feedback loop incorporates the resonance circuit. Therefore, the amount of the negative feedback varies according to the impedance of the series LC resonance circuit, that is, the gain becomes maximum at the frequency with the minimum impedance.


Input
IC1
Output
Series LC resonance circuit

Circuit Operation with VR set UP

When VR is slid down, the resonance circuit is connected to the non-inverting input terminal so that the gain characteristic follows the resonance curve.


Input
IC1
Output
Series LC resonance circuit

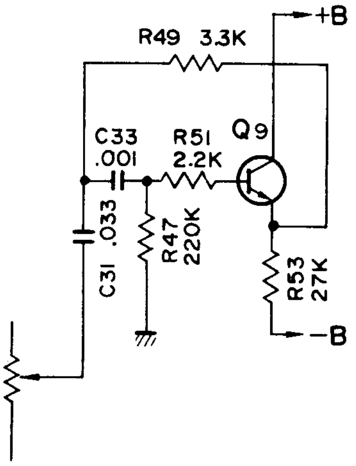
Circuit Operation with VR Set DOWN

Series LC resonance circuit
When an AC voltage is applied to an inductor, a current which is $-\pi/2$ out of phase with the voltage flows. In the Super Eleven, an emitter follower circuit which shifts the phase in the same way as an inductor is used instead of the series LC resonance circuit.

This emitter follower circuit has the following advantages compared to the circuit using an actual inductors and capacitors.

1. Less influenced by induced hum.
2. Less weight and size.
3. Less cost.
4. More stable.

The circuit shown below acts in the same way as the series LC resonance circuit and is called a simulated inductor.


+B
R49 3.3K
C33
.001
R51
2.2K
Q9
C31 .033
R47
220K
R53
27K
-B

CIRCUIT DESCRIPTION

How this circuit operates as an inductor is explained below. The circuit diagram below shows a simplified simulated inductor circuit.

When an input voltage Ei is applied, Ei' is applied to the base of Q1. Since Ei' is obtained by differentiating Ei, Ei' leads Ei with a phase difference of ϕ. Q1 forms an emitter follower, so its output voltage Eo has the same phase as Ei'. Thus, Eo leads Ei with a phase difference of ϕ. Ef across R_2 is Ei minus Eo. As Eo is leading Ei by ϕ, Ef lags behind Ei with a phase difference of ϕ'.

The input current Ii is the sum of I_1 which flows through C_1 and R_1, and I_2 which flows through R_2. Since the total impedance of C_1 and R_1 is sufficiently larger than that of R_2 and Q_1 has a large input impedance, I_1 is very small. Therefore, Ii is nearly equal to I_2. I_2 is equal to Ef (= Ei − Eo) divided by R_2. Since Ef lags Ei by ϕ', I_2 (= Ef/R_2) also lags Ei by ϕ'.

These characteristics are the same as the voltage and current characteristics of an inductor and, therefore, this circuit operates as an inductor.

The equivalent inductance Le and series resistance Re are

$Le = C_1R_1R_2$ (H), $Re = R_2$ (Ω)

In the 1 kHz control circuit of the Super Eleven,

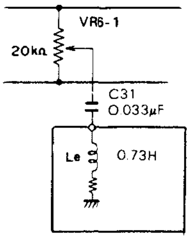
$C_1 = 0.001$ (μF), $R_1 = 220$ (kΩ) and $R_2 = 3.3$ (kΩ)

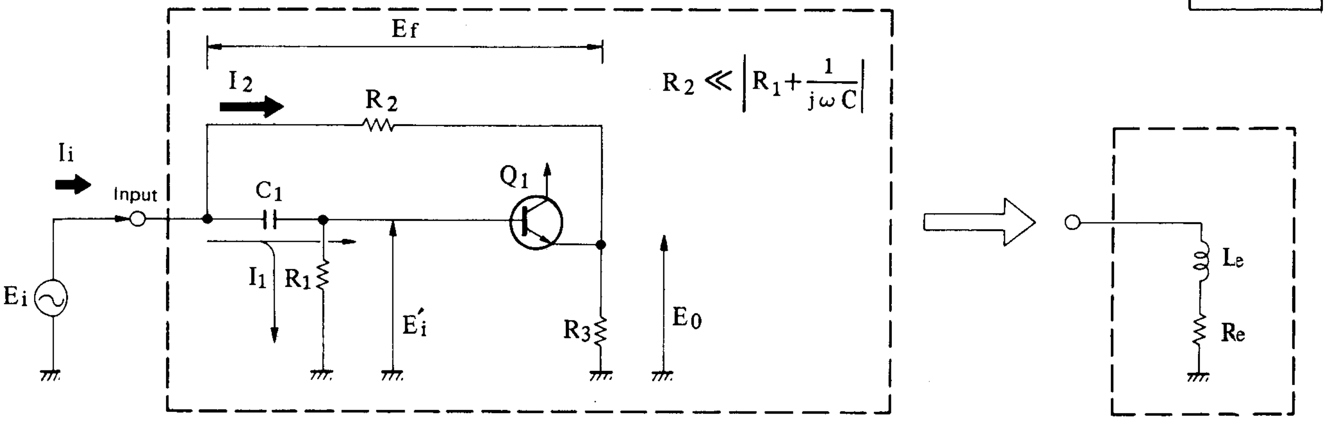
Then,

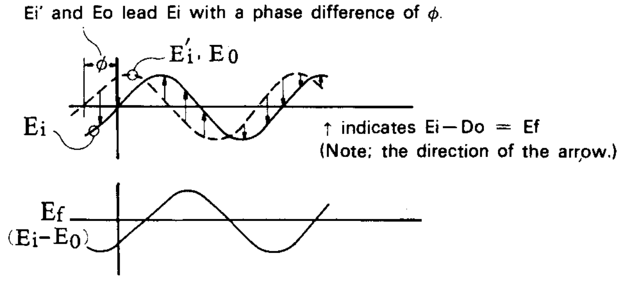
$$Le = 0.001 \times 10^{-6} \times 220 \times 10^{3} \times 3.3 \times 10^{3}$$
$$= 0.73 \text{ (H)}$$

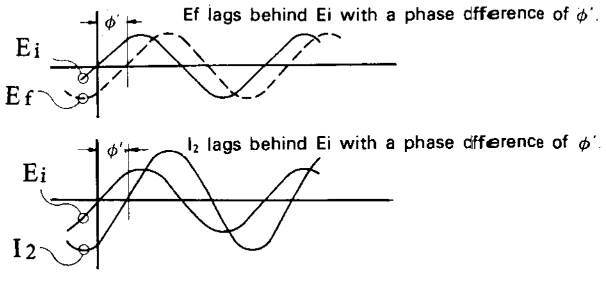
The resonance frequency is given by

$$fo = 1/2\pi\sqrt{C_{31}Le} \qquad (C_{31} = 0.033\mu F)$$
$$= 1/2\pi\sqrt{0.033 \times 10^{-6} \times 0.73}$$
$$= 1025 \text{ (Hz)} \fallingdotseq 1 \text{ kHz}$$









CIRCUIT DESCRIPTION

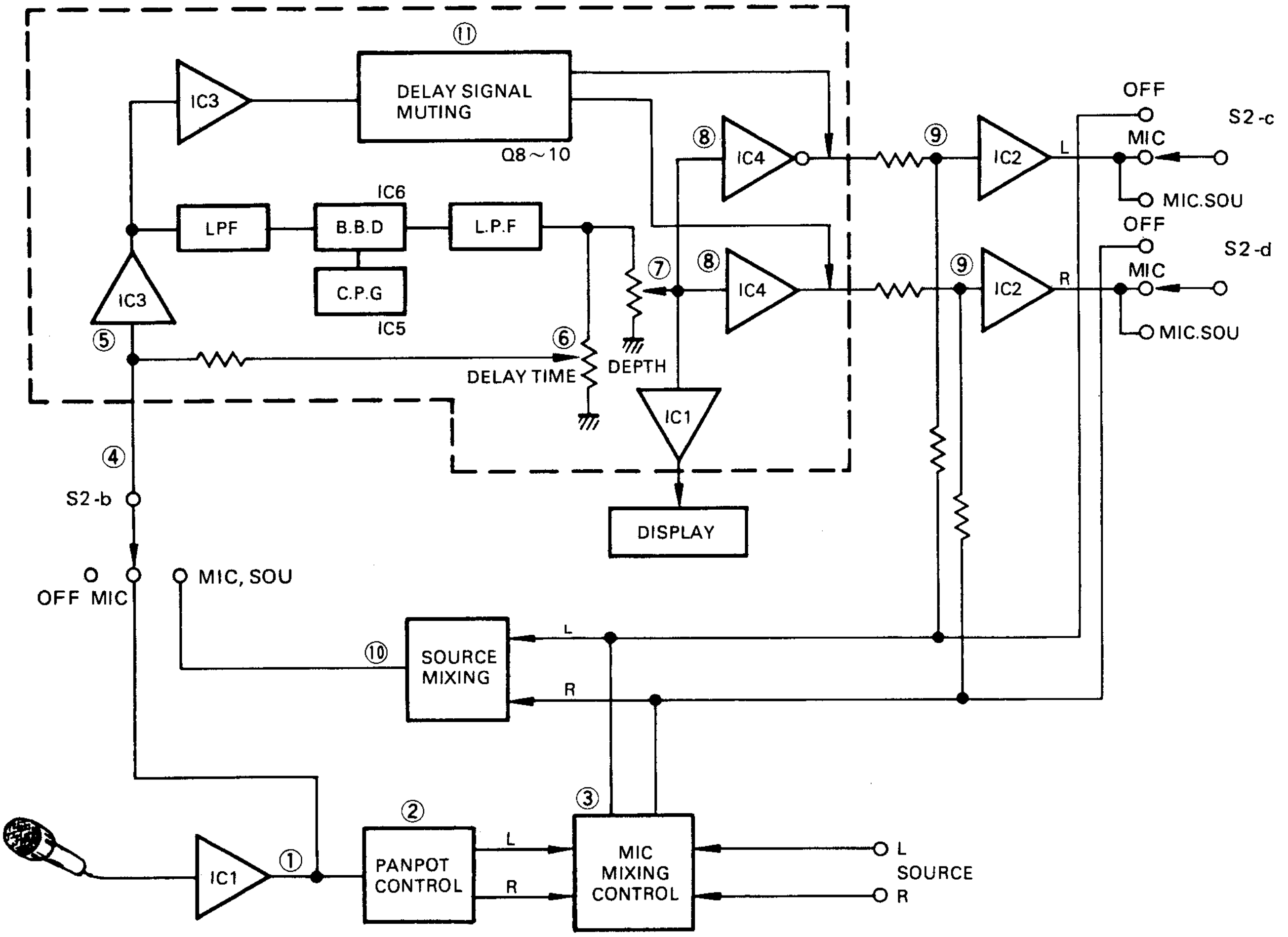

⑪
DELAY SIGNAL MUTING
Q8～10
IC3
IC6
LPF
B.B.D
L.P.F
C.P.G
IC5
IC3
⑤
⑥
DELAY TIME
⑦
DEPTH
⑧
IC4
⑧
IC4
IC1
⑨
IC2
L
⑨
IC2
R
OFF
MIC
MIC.SOU
S2-c
OFF
MIC
MIC.SOU
S2-d
④
S2-b
DISPLAY
OFF MIC
MIC, SOU
⑩
SOURCE MIXING
L
R
②
PANPOT CONTROL
③
MIC MIXING CONTROL
IC1
①
L
R
L
SOURCE
R

Fig. 1 <Reverberation circuit>

Reverberation Circuit Explanation

1. Reverberation circuit

The reverberation circuit used in the Super Eleven has a monaural configuration using a B.B.D. (Bucket Bridge Device) and has the mixers and dividers shown in figure 1 .

1 MIC

The microphone signal amplified by IC1 (MIC AMP) ① is divided into left and right channel signals by the panpot control ②, then mixed with the source signals by the MIC mixing control ③. At the same time, the microphone signal is applied to the reverberation circuit through S2-b ④, then output from the DEPTH control ⑦. This signal is divided into the inverting and non-inverting amplifiers (IC4) ⑧ and these signals are mixed with the left and right channel signals, respectively ⑨. (This phase inversion gives a stereo effect.) The signal from the DELAY TIME control ⑥ is fed back to the input ⑤ so that reverberation effect can be controlled.

IC3 and Q8 ～ Q10 mute the reverberation when the input level is low ⑪.

2 MIC SOU

The signals from the MIC mixing control ③ are mixed into a monaural signal by the source mixing circuit ⑩ . Then, the signal is applied to the reverberation circuit through S2-b, and is subject to the same operation as in **1 MIC**.

The B.B.D. is a delay element operating as follows.

CIRCUIT DISCRIPTION

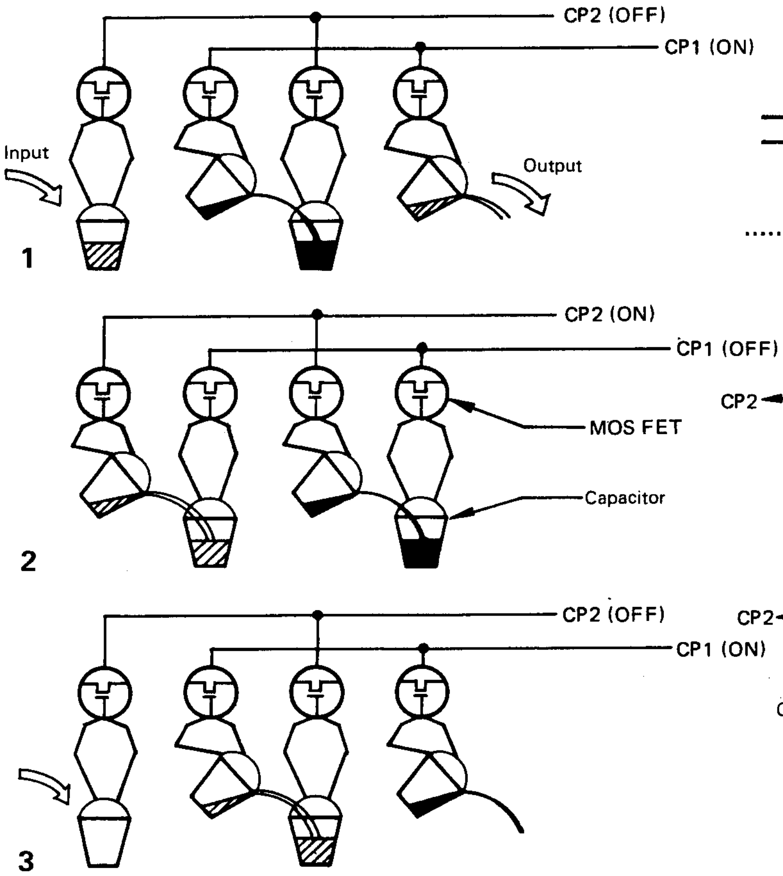

CP2 (OFF)
CP1 (ON)
Input
Output
1
CP2 (ON)
CP1 (OFF)
MOS FET
Capacitor
2
CP2 (OFF)
CP1 (ON)
3

Fig. 2

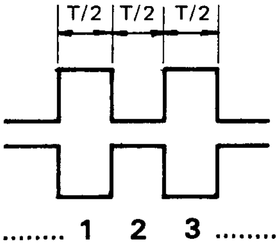


Fig. 3
Clock pulse

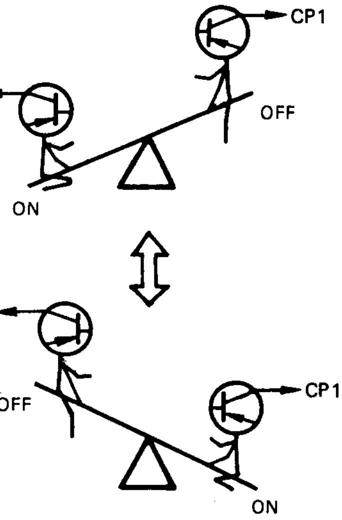

CP1
CP2
OFF
ON
CP2
CP1
OFF
ON

Fig. 4
Clock pulse generator (Multivibrator)

Figures 3 and 4 show clock pulse generator operation and its output waveforms. FETs in the B.B.D. are turned on and off sequentially according to the clock pulse signal. The delay time of each stage is T/2, and the total delay time of the B.B.D. is N/2fcp, where fcp (clock pulse frequency) = 40 kHz and N (number of B.B.D. elements) = 2048 in the Super Eleven. With the DELAY TIME control (⑥ in Fig. 1), the delay time can be doubled.

Figure 5 shows input and output waveforms of the B.B.D. Since the B.B.D. is controlled by the clock pulse (T/2), high frequencies cannot be transfered correctly. The output signal is applied to a low-pass filter to remove the clock pulse component.

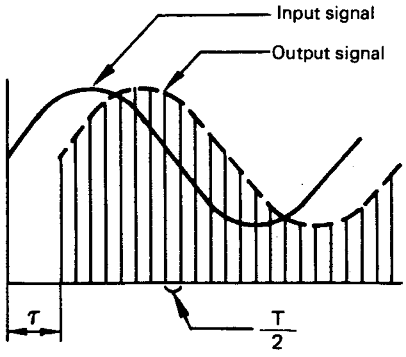
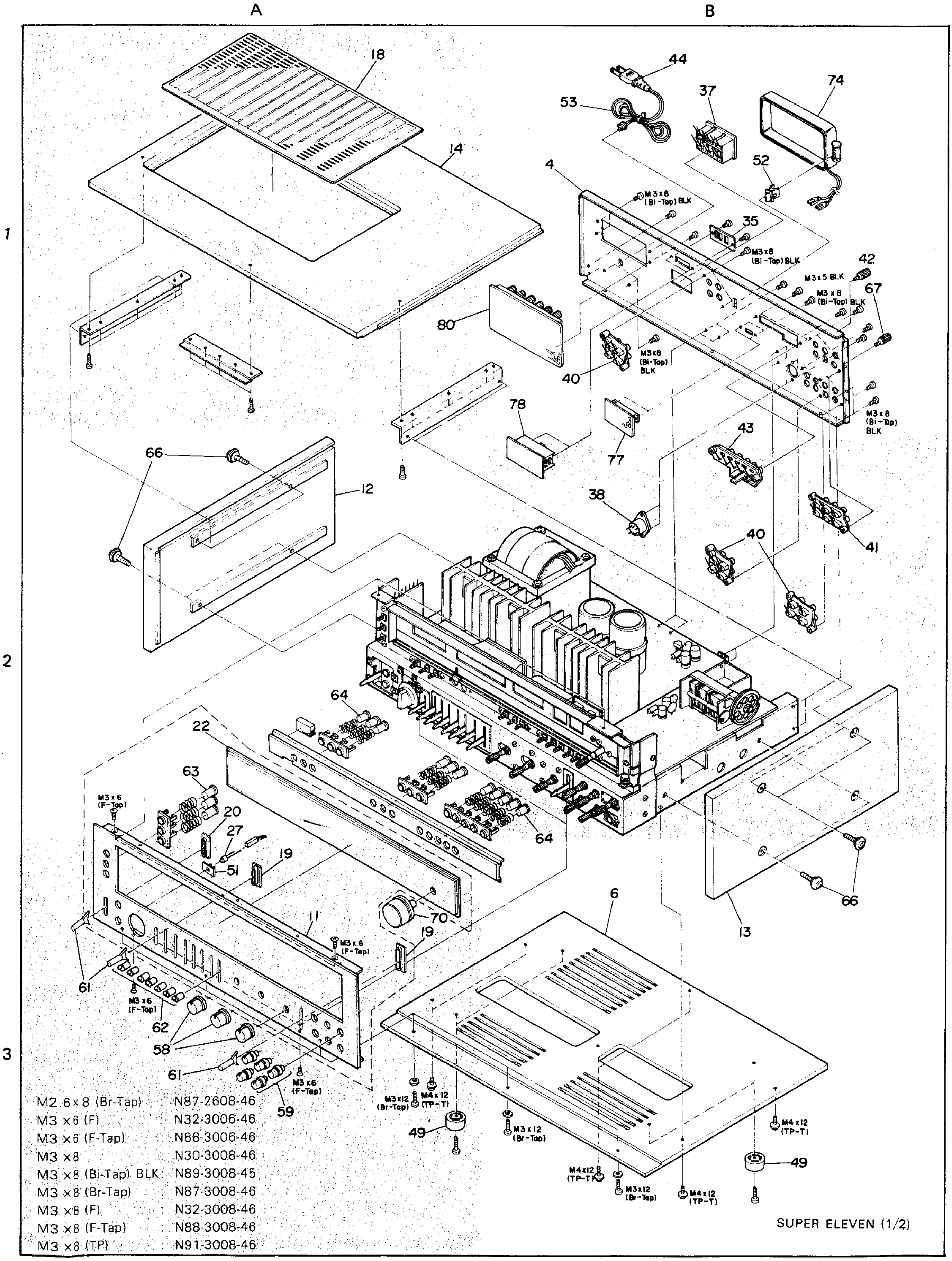


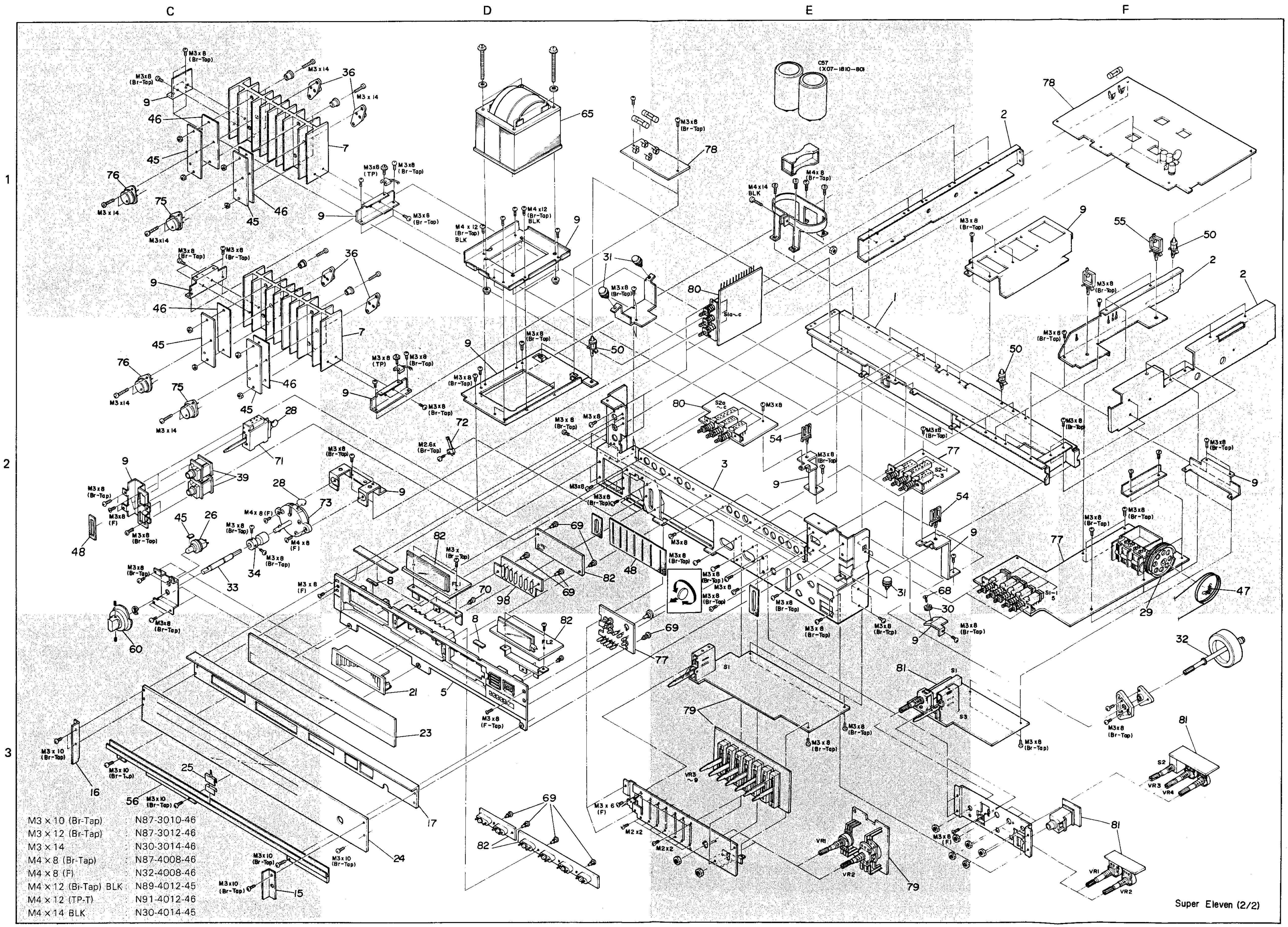
Fig. 5

EXPLODED VIEW


A
B
1
2
3
18
14
44
53
37
74
52
4
M3x8 (Bi-Tap) BLK
35
M3x8 (Bi-Tap) BLK
42
M3x5 BLK
M3x8 (Bi-Tap) BLK
67
80
40
M3x8 (Bi-Tap) BLK
M3x8 (Bi-Tap) BLK
78
77
43
66
12
38
40
41
64
22
63
M3x6 (F-Tap)
20
27
51
19
64
70
19
M3x6 (F-Tap)
11
6
66
13
61
M3x6 (F-Tap)
62
58
61
M3x6 (F-Tap)
59
M3x12 (Br-Tap)
M4x12 (TP-T)
49
M3x12 (Br-Tap)
M4x12 (TP-T)
M4x12 (TP-T)
M3x12 (Br-Tap)
M4x12 (TP-T)
49
SUPER ELEVEN (1/2)

M2 6×8 (Br-Tap) : N87-2608-46
M3 ×6 (F) : N32-3006-46
M3 ×6 (F-Tap) : N88-3006-46
M3 ×8 : N30-3008-46
M3 ×8 (Bi-Tap) BLK : N89-3008-45
M3 ×8 (Br-Tap) : N87-3008-46
M3 ×8 (F) : N32-3008-46
M3 ×8 (F-Tap) : N88-3008-46
M3 ×8 (TP) : N91-3008-46

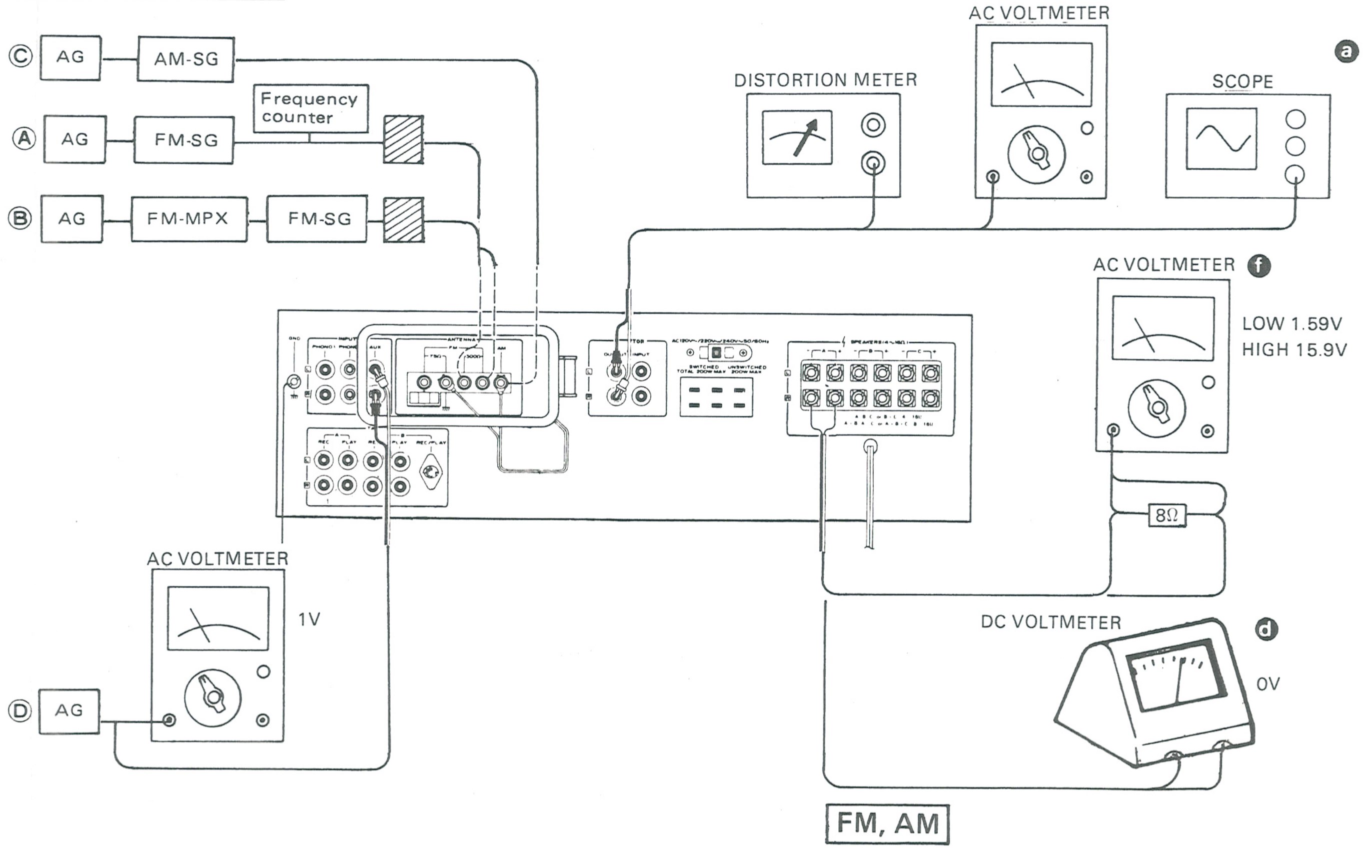
EXPLODED VIEW


C
D
E
F
1
2
3
M3x8 (Br-Tap)
M3 x 14
36
9
46
45
7
76
75
M3x14
M3x8 (TP)
M3x8 (Br-Tap)
65
C57 (X07-1810-80)
78
M4x14 BLK
M4x8 (Br-Tap)
M4 x 12 (Br-Tap) BLK
M4x12 (Br-Tap) BLK
31
80
50
2
55
1
72
M2.6x (Br-Tap)
71
28
39
48
26
73
M4x8 (F)
34
33
60
82
FL1
FL2
70
98
69
8
3
54
77
S2-1
S2a
68
30
47
29
32
81
S1
S3
S2
VR3
VR4
VR1
VR2
79
VR3 ~9
M3 x 6 (F)
M2x2
5
21
23
M3x8 (F-Tap)
16
M3x10 (Br-Tap)
25
56
17
24
15
Super Eleven (2/2)

M3 × 10 (Br-Tap) : N87-3010-46
M3 × 12 (Br-Tap) : N87-3012-46
M3 × 14 : N30-3014-46
M4 × 8 (Br-Tap) : N87-4008-46
M4 × 8 (F) : N32-4008-46
M4 × 12 (Bi-Tap) BLK : N89-4012-45
M4 × 12 (TP-T) : N91-4012-46
M4 × 14 BLK : N30-4014-45

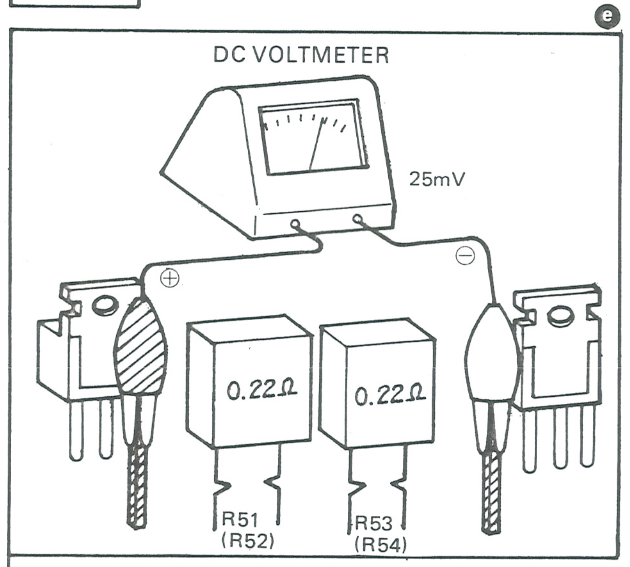
ADJUSTMENT/REGLAGES/ABGLEICH

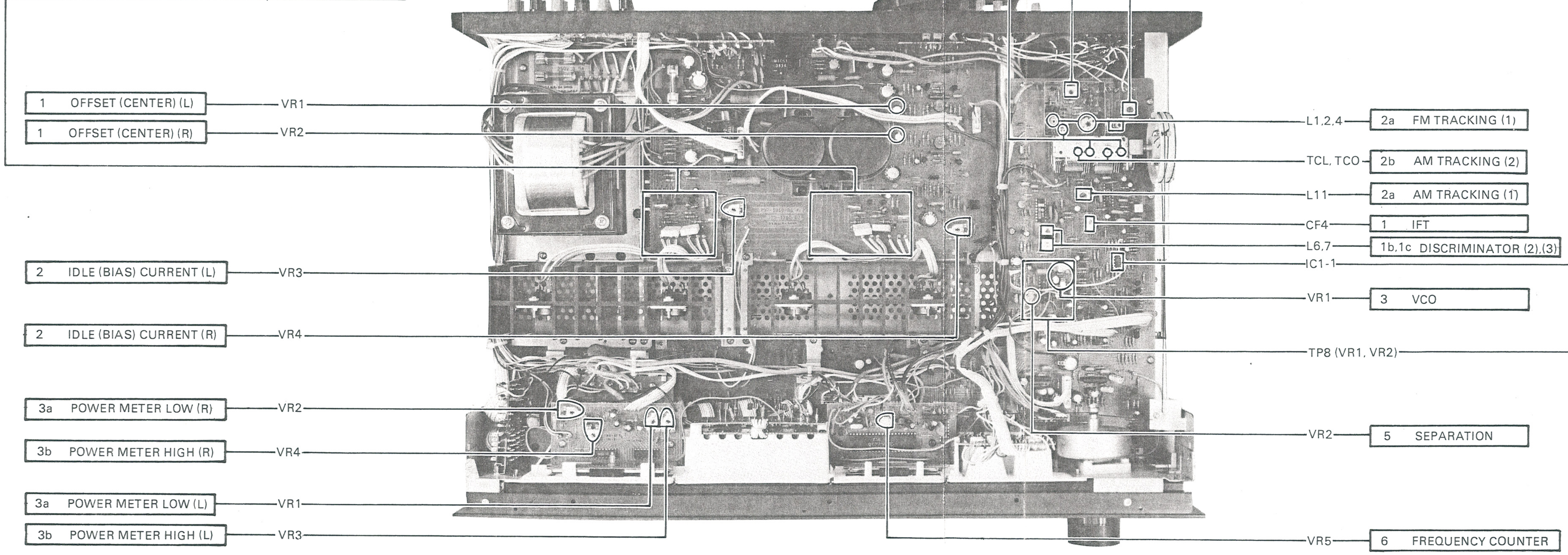
TEST INSTRUMENT	APPAREILLAGE	PRÜFINSTRUMENTE	
Oscilloscope	Oscilloscope	Oszilloskop	SCOPE
AM signal generator	Générateur MA	MW-Signalgenerator	AM-SG
FM signal generator	Générateur MF	UKW-Signalgenerator	FM-SG
Audio generator	Générateur àudio fréquences	NF-Signalgenerator	AG
AC voltmeter	Volltmètre CA	Wechselspannungsmesser	
FM multiplex generator	Générateur multiplex stéréo	UKW-Multiplexgenerator	FM-MPX
Frequency counter	Fréquencemètre	Frequenzzähler	
DC voltmeter	Voltmètre CC	Gleichspannungsmesser	
Distortion meter	Distorsiomètre	Klirrfaktormesser	
Dummy antenna	Antenna fictive	Antennennachbildung	


©
AG
AM-SG
Ⓐ
AG
FM-SG
Frequency counter
Ⓑ
AG
FM-MPX
FM-SG
DISTORTION METER
AC VOLTMETER
SCOPE
a
AC VOLTMETER f
LOW 1.59V
HIGH 15.9V
8Ω
AC VOLTMETER
1V
Ⓓ
AG
DC VOLTMETER
d
0V

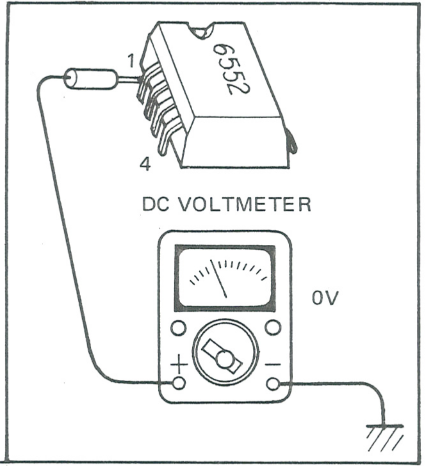
FM, AM

AUDIO

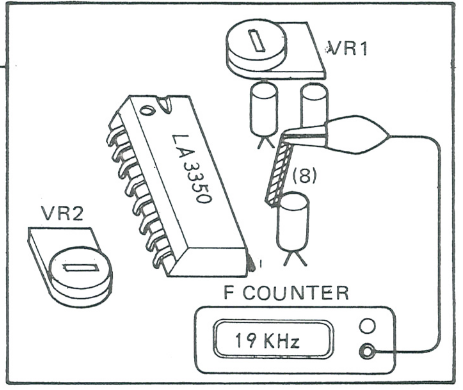

e
DC VOLTMETER
25mV
⊕
⊖
0.22Ω
0.22Ω
R51
(R52)
R53
(R54)


1 OFFSET (CENTER) (L) — VR1
1 OFFSET (CENTER) (R) — VR2
2 IDLE (BIAS) CURRENT (L) — VR3
2 IDLE (BIAS) CURRENT (R) — VR4
3a POWER METER LOW (R) — VR2
3b POWER METER HIGH (R) — VR4
3a POWER METER LOW (L) — VR1
3b POWER METER HIGH (L) — VR3
TCA, TCR, TC1 — 2b FM TRACKING (2)
L5 — 4 DISTORTION
L10 — 2a AM TRACKING (1)
L1,2,4 — 2a FM TRACKING (1)
TCL, TCO — 2b AM TRACKING (2)
L11 — 2a AM TRACKING (1)
CF4 — 1 IFT
L6,7 — 1b,1c DISCRIMINATOR (2),(3)
IC1-1
VR1 — 3 VCO
TP8 (VR1, VR2)
VR2 — 5 SEPARATION
VR5 — 6 FREQUENCY COUNTER

IC1-1 b


1
6552
4
DC VOLTMETER
0V
+
−

TP8 c


VR1
LA3350
(8)
VR2
F COUNTER
19 KHz

ADJUSTMENT

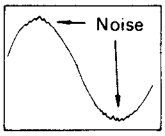
NO:	ALIGNMENT	TEST EQUIPMENTS		RECEIVER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
FM*1							
1a	DISCRIMI-NATOR (1)	Ⓐ	95 MHz 1 kHz, ±75 kHz (Dev)	FM-MONO 95 MHz	ⓐ	–	*2
1b	DISCRIMI-NATOR (2)	- do -	95 MHz 1 kHz, ±75 kHz (Dev) 60 dB (ANT input)	FM-STEREO 95 MHz	ⓑ (IC1-1)	L6	±100 mV
1c	DISCRIMI-NATOR (3)	- do -	- do -	- do -	ⓐ	L7	Minimum distortion
Repeat alignments "1a ~ 1c" severaltimes.							
2a	FM TRACKING (1)	Ⓐ	90 MHz 1 kHz, ±75 kHz (Dev)	FM-MONO 90 MHz	ⓐ	L1,2,4	Maximum deflection
2b	FM TRACKING (2)	- do -	106 MHz 1 kHz, ±75 kHz (Dev)	FM-MONO 106 MHz	- do -	TCA,TCR,TC1	- do -
Repeat alignments "2a, 2b" several times							
3	VCO	Ⓐ	95 MHz 0 (Dev) 60 dB (ANT input)	FM-STEREO 95 MH	ⓒ *3 (19 kHz TP8)	VR1	19 kHz ±50 Hz
4	DISTOR-TION	Ⓑ	95 MHz *4 1 kHz, ±68.25 kHz (Dev) SELECTOR: L+R 60 dB (ANT input)	- do -	ⓐ	L5	Minimum distortion
5	SEPARATION	- do -	95 MHz 1 kHz (Mod) 68.25 kHz (Dev. under L+R position) 60 dB (ANT INPUT) SELECTOR: L or R	- do -	- do -	VR2	Minumum crosstalk
6	FREQUENCY COUNTER	Ⓐ	89.10 MHz 0 (Dev.) 60 dB (ANT INPUT)	FM-MONO 89.1 MHz	Fluorescent indicator	VR5	89.10 MHz
AM *5							
1	IFT	Ⓒ	1,000 kHz 400 Hz, 30% Mod	AM 1,000 Hz	ⓐ	CF4	Maximum deflection
2a	AM TRACKING (1)	- do -	600 kHz 400 Hz, 30% Mod	AM 600 kHz	- do -	L10,11	- do -
2b	AM TRACKING (2)	- do -	1,400 kHz 400 Hz, 30% Mod	AM 1,400 kHz	- do -	TCL,TCO	- do -
Repeat alignments "2a,2b" several times.							

ADJUSTMENT

NO.	ALIGNMENT	TEST EQUIPMENTS		RECEIVER SETTING	OUTPUT INDICATOR	ADJUSTMENT POINTS	REMARKS
		CONNECTION	SETTING				
AUDIO							
1	OFFSET (CENTER)	—	—	VOLUME; ∞ (−dB)	ⓓ	CEN.ADJ. VR1 (VR2)	0V
2	IDLE (BIAS) CURRENT	—	—	- do -	ⓔ	BIAS ADJ. VR3 (VR4)	25 mV
3a	POWER METER	Ⓓ	1 kHz 1V	METER range; × 1 Adjust VOLUME so that AC voltmeter indicates 1.59V	ⓕ POWER METER	MET.ADJ.LOW VR1 (VR2)	0.3W
3b	POWER METER	- do -	- do -	METER range; × 1 Adjust VOLUME so that AC voltmeter indicates 15.9V	- do -	MET.ADJ.HIGH VR3 (VR4)	30W
Repeat a tignments "3a, 3b" several times.							

*1 When performing the adjustments, be sure to turn the reverberation circuit and M.A.C. off.

*2 Adjust the tuning knob so that the same amount of noise is observed at the top and bottom of the output waveform with a weak signal.



*3 If your frequency counter's sensitivity is low, use an AC voltmeter (with high input impedance) as an amplifier.

*4 Set deviation to ±68.25 kHz with selector in L+R position.
Set deviation of pilot signal to 6.75 kHz (9%)

*5 Keep the AM loop antenna connected when connecting the AM-SG.

REGLAGES

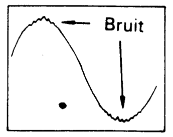
N°	ALIGNEMENT	APPAREILLAGE		REGLAGE DU AMPLI-TUNER	INDICATEUR DE SORTIE	POINTS DE REGLAGES	REMARQUES
		RACCORDEMENT	REGLAGE				
SECTION MF *1							
1a	DISCRIMINATEUR (1)	Ⓐ	95 MHz	FM-MONO	ⓐ	—	*2
1b	DISCRIMINATEUR (2)	- idem -	95 MHz 1kHz, ±75 kHz (Dév) 60 dB (Entrée ANT)	FM-AUTO/MUTE 95 MHz	ⓑ (IC1-1)	L6	±100 mV
1c	DISCRIMINATEUR (3)	- idem -	- idem -	- idem -	ⓐ	L7	Distortion minimale
Repéter les points 1a ~ 1c plusieurs fois.							
2a	ALIGNEMENT (1)	Ⓐ	90 MHz 1 kHz, ±75 kHz (Dév)	FM-MONO 90 MHz	ⓐ	L1,2,4	Déviation maximale
2b	ALIGNEMENT (2)	- idem -	106 MHz 1 kHz, ±75 kHz (Dév)	FM-MONO 106 MHz	- idem -	TCA,TCR,TC1	- idem -
Repéter les points 2a ~ 2b plusieurs fois.							
3	OSCILATEUR 19 kHz	Ⓐ	95 MHz 0 (Dév) 60 dB	FM-AUTO/MUTE 95 MHz	ⓒ *3 (19 kHz T.P.8)	VR1	19 kHz ±50 Hz
4	DISTORSION	Ⓑ	95 MHz *4 1 kHz (Mod) ±68,25 kHz (DéV) L + R (SELECTION) 60 dB	- idem -	ⓐ	L5	Distorsion minimale
5	SEPARATION	- idem -	95 MHz 1 kHz (Mod) sur la position (L + R) 68,25 kHz (Dév) 60 dB (ENTREE ANT) L ou R	- idem -	- idem -	VR2	Diaphonie minimale
6	FREQUENCEMETER	Ⓐ	89,10 MHz 0 (Dév) 60 dB (Entrée ANT)	FM-MONO 89,1 MHz	Indicateur à fréquence	VR5	89,10 MHz
SECTION MA *5							
1	TFI	Ⓒ	1.000 kHz 400 Hz, 30% (Mod)	AM 1.000 kHz	ⓐ	CF4	Déviation maximale
2a	ALIGNEMENT (1)	- idem -	600 kHz 400 Hz, 30% (Mod)	AM 600 kHz	- idem -	L10,11	- idem -
2b	ALIGNEMENT (2)	- idem -	1.400 kHz 400 Hz, 30% (Mod)	AM 1.400 kHz	- idem -		- idem -
Repéter les points 2a ~ 2b plusieurs fois.							

REGLAGES

N°.	ALIGNEMENT	APPAREILLAGE		REGLAGE DU AMPLI-TUNER	INDICATEUR DE SORTIE	POINTS DE REGLAGE	REMARQUES
		RACCORDEMENT	REGLAGE				
SECTION AMPLI							
1	TENSION DE DECALAGE (CENTER)	—	—	VOLUME: minimale	ⓓ	CEN ADJ VR1 (VR2)	0V
2	COURANT DE POLARISATION (BIAS)	—	—	idem	ⓔ	BIAS ADJ VR3 (VR4)	25 mV
3a	POWER METRE	Ⓓ	1 kHz 1V	Regler le VOLUME en sortie que Le VU mètre indique 3W lorsque le voltmètre indique 1,59V	ⓕ POWER METRE	MET ADJ LOW VR1 (VR2)	0.3W
3b	POWER METRE	- idem -	1 kHz 1V	Regler le VOLUME en sortie que. Le VU mètre indique 3W lorsque le voltmètre indique 1,59V	ⓕ POWER METRE	MET ADJ HIGH VR3 (VR4)	30W
Répéter les 2 et 3 plusieurs fois.							

*1 Lors du réglage, s'assurer de débrancher le circuit de réverberation et le circuit M.A.C.

*2 Ajuster le bouton d'accord de facon que la même quantité du bruit puisse être observé au sommet et en bas de la forme d'onde de sortie sous des conditions d'alimentation de signal faible



*3 Si votre compteur de fréquence a une faible sensibilité, utilisez un voltmètre à courant alternatif (avec une impédance d'entrée elevée) comme amplificateur.

*4 Régler la déviation à ±68,25 kHz avec le sélecteur en position L + R (gauche + droite). Régler déviation du sigunal pilote à 6,75 kHz (9%).

*5 Maintenir l'antenne bouclée MA connectée pour connecter le générateur MA.

ABGLEICH

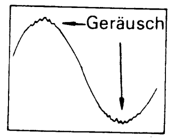
NR.	ABGLEICH	PRÜFEINRICHTUNG		RECEIVER EINSTELLUNG	AUSGANGS-ANZEIGE	EINSTELL-PUNKT	BEMERK-UNGEN
		AN-SCHLÜSSE	EINSTELLUNG				
UKW-EMPFANGSABTEILUNG *1							
1a	**DISKRIMINATOR (1)**	Ⓐ	95 MHz 1 kHz, ±75 kHz (Hub)	FM-MONO 95 MHz	🅐	—	*2
1b	**DISKRIMINATOR (2)**	- dito -	95 MHz 1 kHz, ±75 kHz (Hub) 60 dB (Eingangssignalpegel)	FM-STEREO 95 MHz	🅑 (IC1-1)	L6	±100 mV
1c	**DISKRIMINATOR (3)**	- dito -	- dito -	- dito -	🅐	L7	Minimaler klirrfaktor
Abstimmungen „1a bis 1c" mehrere Male wiederholen.							
2a	**UKW-EMPFANGS-BEREICH (1)**	Ⓐ	90 MHz 1 kHz, ±75 kHz (Hub)	FM-MONO 90 MHz	🅐	L1,2,4	Maximaler Ausschlag
2b	**UKW-BEREICH (2)**	- dito -	106 MHz 1 kHz, ±75 kHz (Hub)	FM-MONO 106 MHz	- dito -	TCA,TCR,TC1	- dito -
Abstimmungen „2a und 2b" mehrere Male wiederholen.							
3	**SPANNUNGS GEREGELTER OSZILLATOR**	Ⓐ	95 MHz 0 Hub 60 dB	FM-STEREO 95 MHz	🅒 *3 (19 kHz, T.P.8)	VR1	19 kHz ±50 Hz
4	**KLIRR-FAKTOR**	Ⓑ	95 MHz *4 1 kHz, ±68,25 kHz (Hub) Wähler: L + R 60 dB	- dito -	🅐	L5	Minimaler Klirrfaktor
5	**STEREO KANAL TRENNUNG**	- dito -	95 MHz 1 kHz, ±68,25 kHz (Hub bei L + R Stellung), 60 dB (Eingangssignalpegel) Wähler: L order R	- dito -	- dito -	VR2	Minimales Übersprechen
6	**FREQUENZ-ZÄHLER**	Ⓐ	89,10 MHz 0 (Dev) 60 dB (Eingrangssignalpegel)	FM-MONO 89,1 MHz	Frequenz-indikator	VR5	89,10 MHz
MW-EMPFANGSABTEILUNG *5							
1	**ZF-T**	Ⓒ	1.000 kHz 400 Hz, 30% Mod	AM 1.000 kHz	🅐	CF4	Maximaler Ausschlag
2a	**MW EMPFANGS-BEREICH (1)**	- dito -	600 kHz 400 Hz, 30% Mod	AM 600 kHz	- dito -	L10,11	- dito -
2b	**MW EMPFANGS-BEREICH (2)**	- dito -	1.400 kHz 400 Hz, 30% Mod	AM 1.400 kHz	- dito -	TCL,TCO	- dito -
Abstimmungen „2a und 2b" mehrere Male wiederholen.							

ABGLEICH

NR.	ABGLEICH	PRÜFEINRICHTUNG		RECEIVER EINSTELLUNG	AUSGANGS-ANZEIGE	EINSTELL-PUNKT	BEMERK-UNGEN
		ANSCHLÜSSE	EINSTELLUNG				
VERSTÄRKER							
1	**OFFSET SPANNUNG (CENTER)**	—	—	VOLUME ZU Stellung „∞"	🅓	CEN.ADJ VR1 (VR2)	0V
2	**LEER-LAUFS (BIAS)**	—	—	- dito -	🅔	BIAS ADJ VR3 (VR4)	25 mV
3a	**LEISTUNGS-MESSER**	Ⓓ	1 kHz 1V	Den VOLUMEN so regulieren, daß die Gleichspannungsmesser-Ablesung 1,59V ist.	🅕 Leistungs-messer	MET ADJ LOW VR3 (VR4)	0,3W
3b	**LEISTUNGS-MESSER**	Ⓓ	1 kHz 1V	Den VOLUME so regulieren, daß die Gleichspannungsmesser-Ablesung 15,9V ist.	🅕 Leistungs-messer	MET ADJ HIGH VR3 (VR4)	30W
Abstimmungen"3a und 3b"mehrere Male wiederholen.							

*1 Wenn Sie eine Justierung durchführen, nicht vergessen, den Nachhallschaltkreis und M.A.C. auszuschalten.

*2 Den Abstimmknopf so einstellen, daß an der oberen und unteren Grenze der Ausgangswellenform bei schwachem Signal desselbe Geräusch auftritt.



*3 Wenn Ihr Frequenzzähler nur eine geringe Empfindlichkeit hat, verwenden Sie ein Wechselstrom-Voltmeter (mit hoher Eingangsimpedanz) als Verstärker.

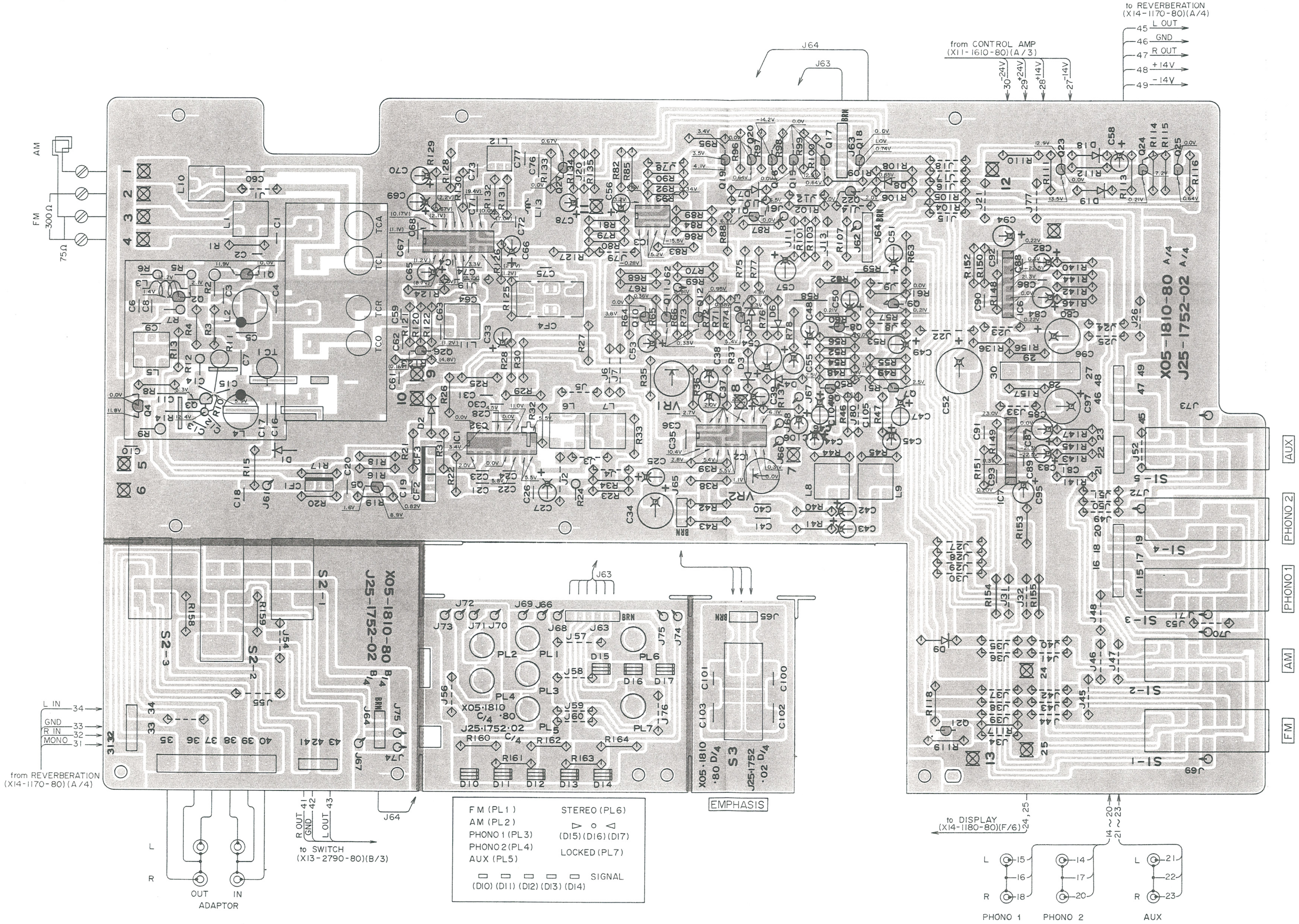
*4 Hub mit dem Wahlschalter auf L + R auf 68,25 kHz einstellen. Hub des Kontrollsignals auf 6,75 kHz (9%) einstellen.

*5 Die-MW Schleifenantenne beim Anschliessen des Signalgenerators angeschlossen lassen.

PC BOARD

TUNER (X05-1810-10) Component side view

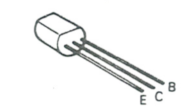
Refer to the schematic diagram for the values of resistors and capacitors.


to REVERBERATION
(X14-1170-80)(A/4)
45 L OUT
46 GND
47 R OUT
48 +14V
49 −14V
from CONTROL AMP
(X11-1610-80)(A/3)
30 −24V
29 +24V
28 +14V
27 −14V
J64
J63
AM
FM 300Ω
75Ω
X05-1810-80 A/4
J25-1752-02 A/4
X05-1810-80 B/4
J25-1752-02 B/4
X05-1810 C/4 ·80
J25-1752·02 C/4
X05-1810 ·80 D/4
J25-1752 ·02 D/4
AUX
PHONO 2
PHONO 1
AM
FM
EMPHASIS
L IN 34
GND 33
R IN 32
MONO 31
from REVERBERATION
(X14-1170-80)(A/4)
L
R
OUT
IN
ADAPTOR
R OUT 41
GND 42
L OUT 43
to SWITCH
(X13-2790-80)(B/3)
FM (PL1)
AM (PL2)
PHONO 1 (PL3)
PHONO 2 (PL4)
AUX (PL5)
STEREO (PL6)
(D15) (D16) (D17)
LOCKED (PL7)
SIGNAL
(D10) (D11) (D12) (D13) (D14)
to DISPLAY
(X14-1180-80)(F/6)
24, 25
14~20
21~23
PHONO 1
PHONO 2
AUX

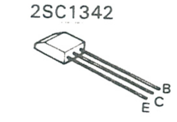
IC1 :HA1137W-05
IC2 :LA3350S-L6
IC3 :AN6552
IC4 :LA1240
or HA1197
IC6,7 :HA1457W
Q1,4 :2SK61
Q2 :2SC535(A,B)
Q3 :2SC1342 (A)
Q5 :2SC1923
Q6,7 :2SC1845(F,E,U)
Q8,9 :2SK117(Y,GR,BL)
Q10~12,15,17~20,22,
24~27 :2SC945 (Q,P)
or 2SC828A(Q,R)
Q13,16,21
:2SA733(A)(Q,P)
Q or 2SA564A(Q,R,S)
Q14 :2SK163 (L,M)
Q23 :2SA992 (F,E)

D1 :1S2236
D2~9,18~22
:1S2076 or 1S1555

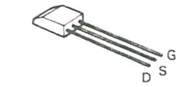
2SA564A
2SA733A
2SA992
2SC828A
2SC945
2SC1845
2SC1923



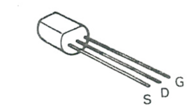
2SC535
2SC1342



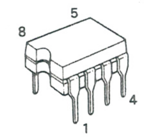
2SK61



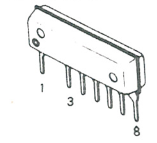
2SK117
2SK163



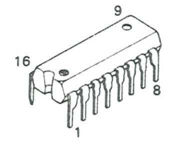
AN6552



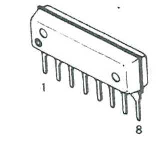
HA1457W



HA1137W
HA1197



LA1240
LA3350S



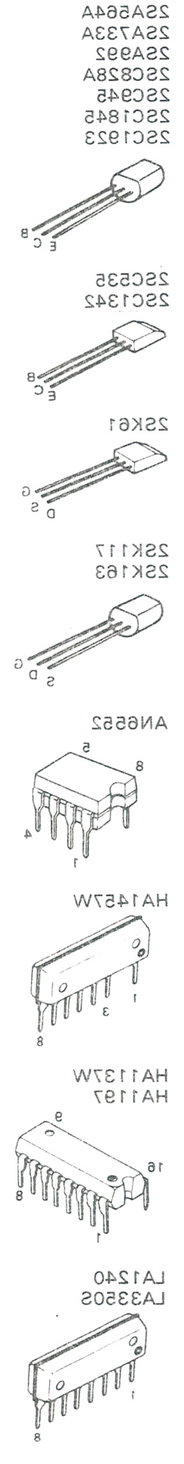
Adjustment and Test points	L5	L10	L1 TC1 L2 L4	TCA TCL TCR TCO	L11	L6	L7	IC3 VR1	TP8 VR2

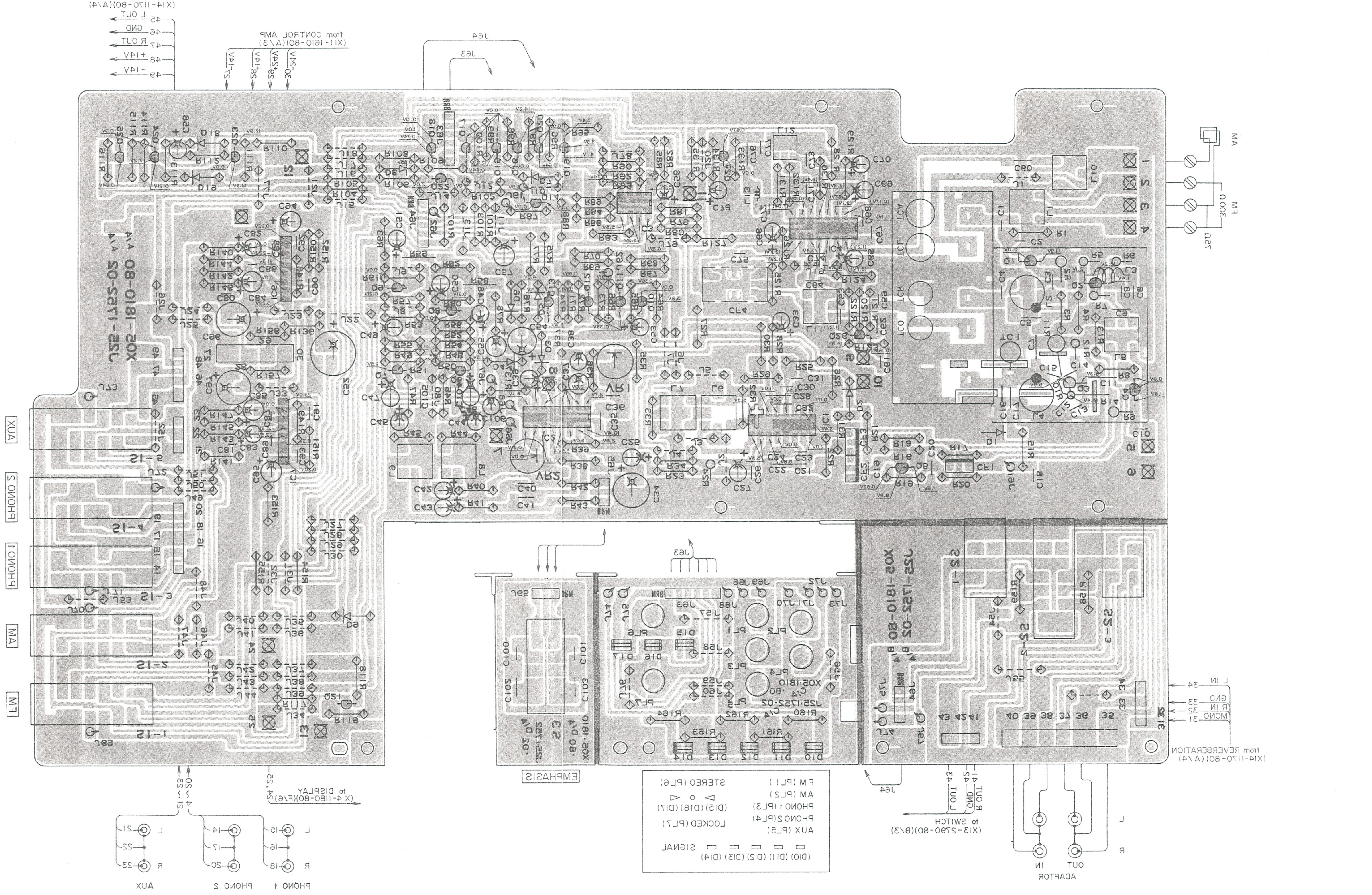
PC BOARD

TUNER (X05-1810-10) Component side view

Refer to the schematic diagram for the values of resistors and capacitors.

IC1 :HA1137W-05
IC2 :LA3350S-L6
IC3 :AN6552
IC4 :LA1240 or HA1197
IC6,7 :HA1457W
Q1,4 :2SK61
Q2 :2SC535(A,B)
Q3 :2SC1342(A)
Q5 :2SC1923
Q6,7 :2SC1845(F,E,U)
Q8,9 :2SK117(Y,GR,BL)
Q10~12,15,17~20,22, 24~27 :2SC945(Q,P) or 2SC828A(Q,R)
Q13,16,21 :2SA733(A)(Q,P) or 2SA564A(Q,R,S)
Q14 :2SK163(L,M)
Q23 :2SA999(F,E)
D1 :1S2236
D2~9,18~22 :1S2076 or 1S1555


2SA564A
2SA733A
2SA992
2SC828A
2SC945
2SC1845
2SC1923
E C B
2SC535
2SC1342
E C B
2SK61
G S D
2SK117
2SK163
G S D
AN6552
HA1457W
HA1137W
HA1197
LA1240
LA3350S

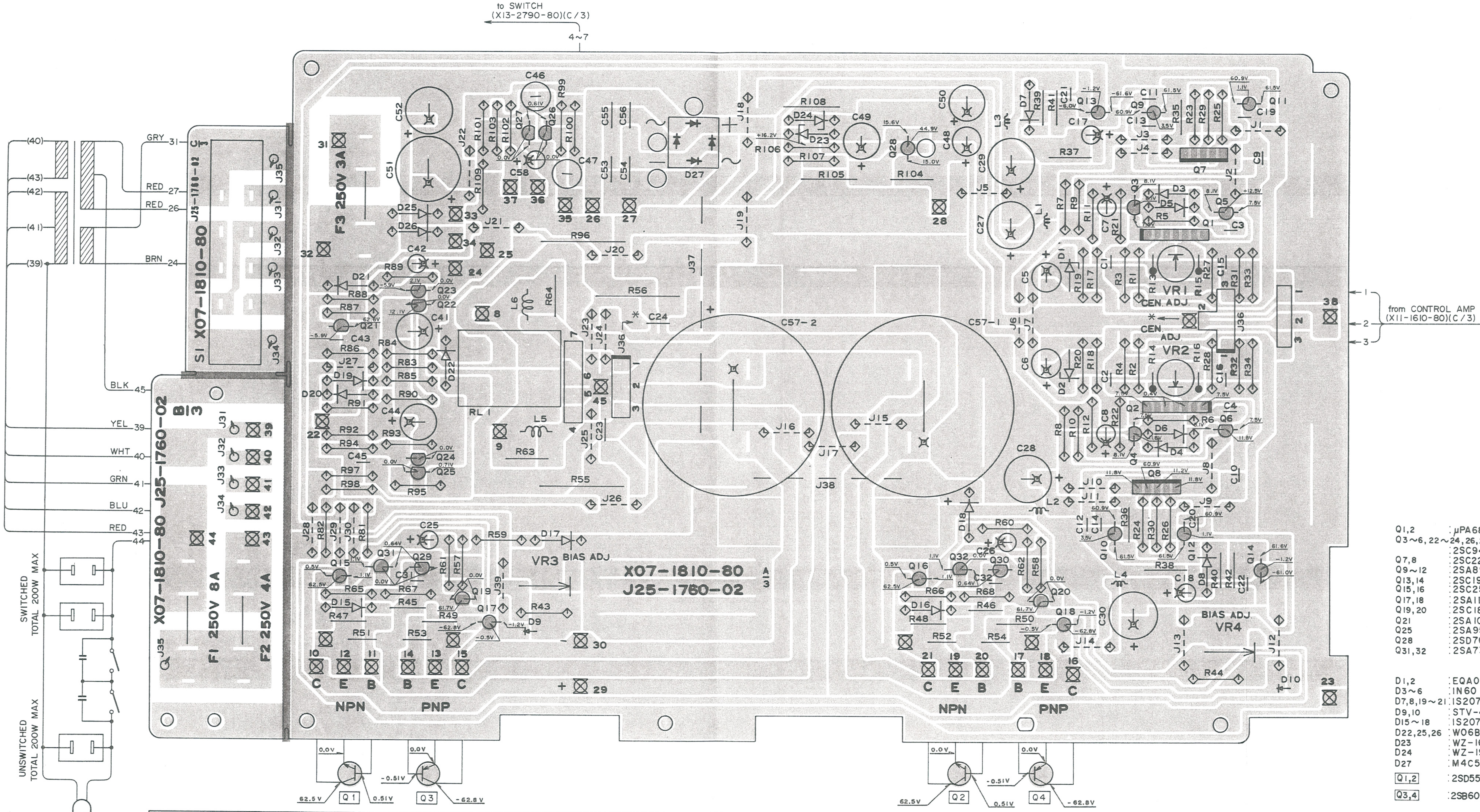

to REVERBERATION (X14-1170-80)(A/4)
L OUT
GND
R OUT
+14V
-14V
from CONTROL AMP (X11-1610-80)(A/3)
J64
J63
AM
FM 300Ω
75Ω
AUX
PHONO 2
PHONO 1
AM
FM
X05-1810-80 J25-1752-02
EMPHASIS
to DISPLAY (X14-1180-80)(F/6)
AUX
PHONO 2
PHONO 1
L
R
FM (PL1)
AM (PL2)
PHONO1 (PL3)
PHONO2 (PL4)
AUX (PL5)
STEREO (PL6)
(D15)(D16)(D17)
LOCKED (PL7)
SIGNAL
(D10)(D11)(D12)(D13)(D14)
to SWITCH (X13-2790-80)(B/3)
L OUT
GND
R OUT
ADAPTOR
IN
OUT
L IN
GND
R IN
MONO
from REVERBERATION (X14-1170-80)(A/4)
VR1
VR2

Adjustment and Test points	L5	L10	L1 TC1	TCA	L11	L6	L7	IC3	TP8
			L2	TCL				VR1	VR2
			L4	TCR					
				TCO					

PC BOARD

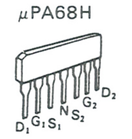
POWER AMP (X07-1810-80) Component side view

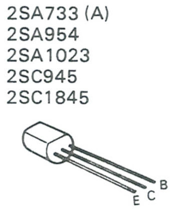
Refer to the schematic diagram for the values of resistors and capacitors.

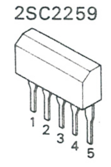

to SWITCH
(X13-2790-80)(C/3)
4~7
from CONTROL AMP
(X11-1610-80)(C/3)
1
2
3
GRY 31
RED 27
RED 26
BRN 24
BLK 45
YEL 39
WHT 40
GRN 41
BLU 42
RED 43
44
(40)
(43)
(42)
(41)
(39)
SWITCHED TOTAL 200W MAX
UNSWITCHED TOTAL 200W MAX
AC 120/220/240V 50/60Hz
S1 X07-1810-80
J25-1760-02
X07-1810-80 J25-1760-02
B/3
C/1
A/3
F1 250V 8A
F2 250V 4A
F3 250V 3A
C57-2
C57-1
VR1 CEN. ADJ
VR2 CEN ADJ
VR3 BIAS ADJ
VR4 BIAS ADJ
RL1
NPN
PNP
C E B
B E C
Q1
Q2
Q3
Q4
62.5V
0.51V
-0.51V
-62.8V
0.0V

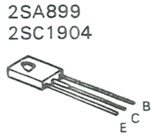
Adjustment and Test points	TP	TP	VR3	TP	TP	VR1,2	VR4
	IDLE(BIAS)L	IDLE(BIAS)L	IDLE(BIAS)L	IDLE(BIAS)R	IDLE(BIAS)R	OFFSET(CENTER)	IDLE(BIAS)R

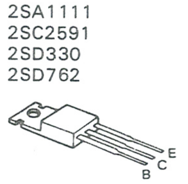
Q1,2	:µPA68H
Q3~6, 22~24, 26, 27, 29, 30	:2SC945
Q7,8	:2SC2259
Q9~12	:2SA899 (B,V)
Q13,14	:2SC1904 (B,V)
Q15,16	:2SC2591 (Q,R)
Q17,18	:2SA1111 (Q,R)
Q19,20	:2SC1845
Q21	:2SA1023
Q25	:2SA954
Q28	:2SD762 or 2SD330
Q31,32	:2SA733 (A)
D1,2	:EQA01-05(S)
D3~6	:IN60
D7,8,19~21	:IS2076 or IS1555
D9,10	:STV-4H (G)
D15~18	:IS2076A
D22,25,26	:W06B
D23	:WZ-162
D24	:WZ-197
D27	:M4C51-13 ✱2
Q1,2	:2SD555
Q3,4	:2SB600

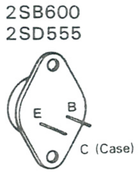

µPA68H
D1 G1 S1 N S2 G2 D2


2SA733 (A)
2SA954
2SA1023
2SC945
2SC1845
E C B


2SC2259
1 2 3 4 5


2SA899
2SC1904
E C B


2SA1111
2SC2591
2SD330
2SD762
B C E

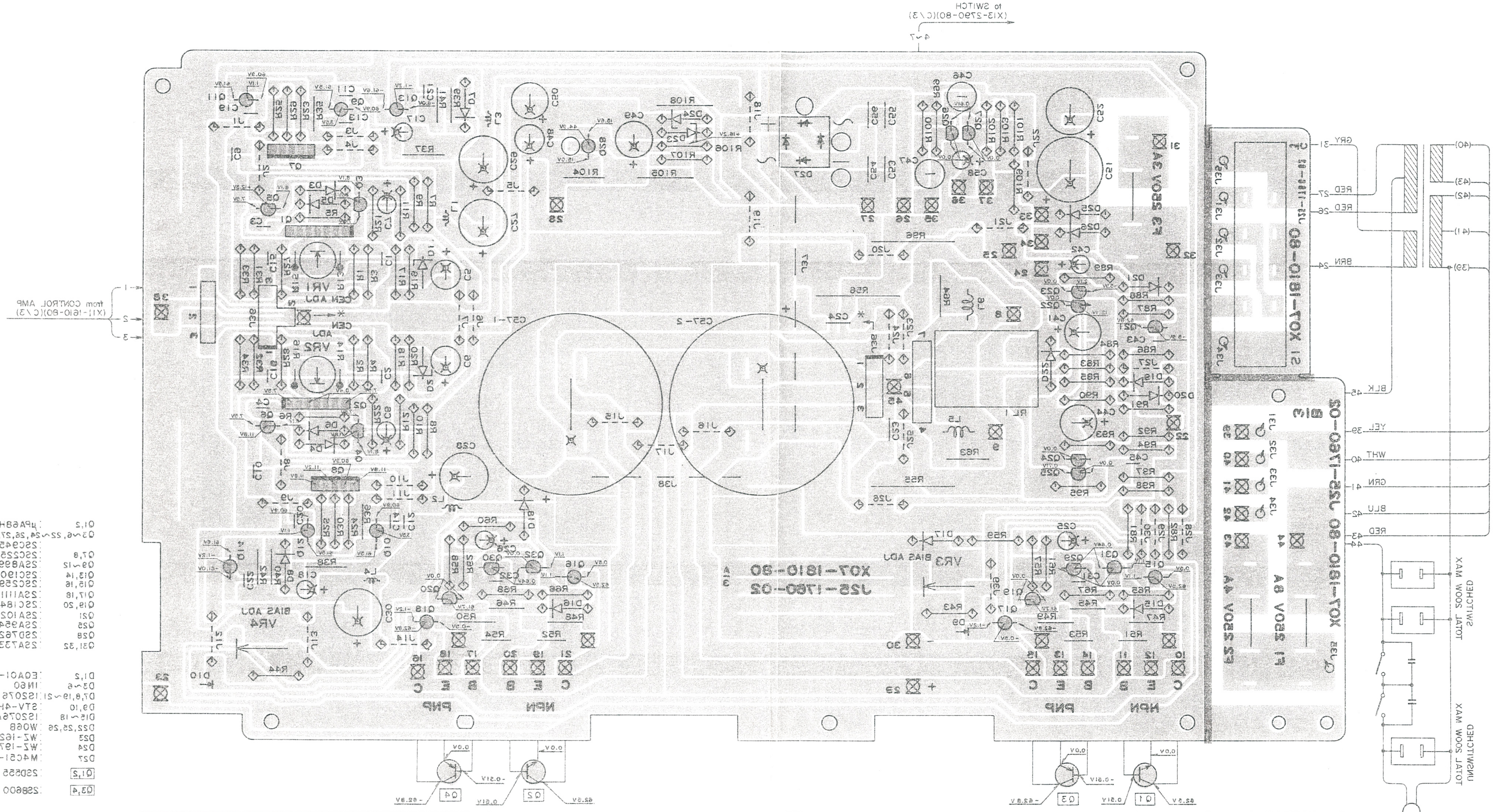

2SB600
2SD555
E B
C (Case)

SUPER ELEVEN SUPER ELEVEN

PC BOARD

POWER AMP (X07-1810-80) Component side view

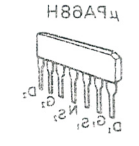
Refer to the schematic diagram for the values of resistors and capacitors.

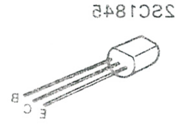

to SWITCH
(X13-2790-80)(C/3)
from CONTROL AMP
(X11-1610-80)(C/3)
X07-1810-80
J25-1760-02
X07-1810-80 J25-1760-02
X07-1810-80 1/2
VR1 CEN ADJ
VR2
VR3 BIAS ADJ
VR4 BIAS ADJ
F1 250V 8A
F2 250V 4A
F3 250V 3A
GRY
RED
BRN
BLK
YEL
WHT
GRN
BLU
SWITCHED TOTAL 200W MAX
UNSWITCHED TOTAL 200W MAX
AC120/220/240V 50/60Hz
NPN
PNP
C
E
B
Q1
Q2
Q3
Q4

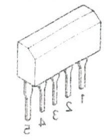
Q1,2 : µPA68H
Q3~6, 22~24, 26, 27, 29, 30 : 2SC945
Q7, 8 : 2SC2259
Q9~12 : 2SA899 (B, V)
Q13, 14 : 2SC1904 (B, V)
Q15, 16 : 2SC2591 (Q, R)
Q17, 18 : 2SA1111 (Q, R)
Q19, 20 : 2SC1845
Q21 : 2SA1023
Q25 : 2SA954
Q28 : 2SD762 or 2SD330
Q31, 32 : 2SA733 (A)

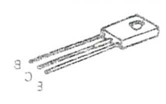
D1, 2 : EQA01-05 (S)
D3~6 : 1N60
D7, 8, 19~21 : 1S2076 or 1S1555
D9, 10 : STV-4H (G)
D15~18 : 1S2076A
D22, 25, 26 : W06B
D23 : WZ-162
D24 : WZ-197
D27 : M4C51-13*2
Q1,2 : 2SD555
Q3,4 : 2SB600

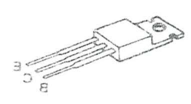
Adjustment and Test points	TP	TP	VR3	TP	TP	VR1,2	VR4
	IDLE(BIAS)L	IDLE(BIAS)L	IDLE(BIAS)L	IDLE(BIAS)R	IDLE(BIAS)R	OFFSET(CENTER)	IDLE(BIAS)R

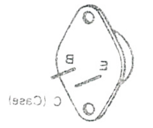

µPA68H


2SA733 (A)
2SA954
2SA1023
2SC945
2SC1845


2SC2259


2SA899
2SC1904

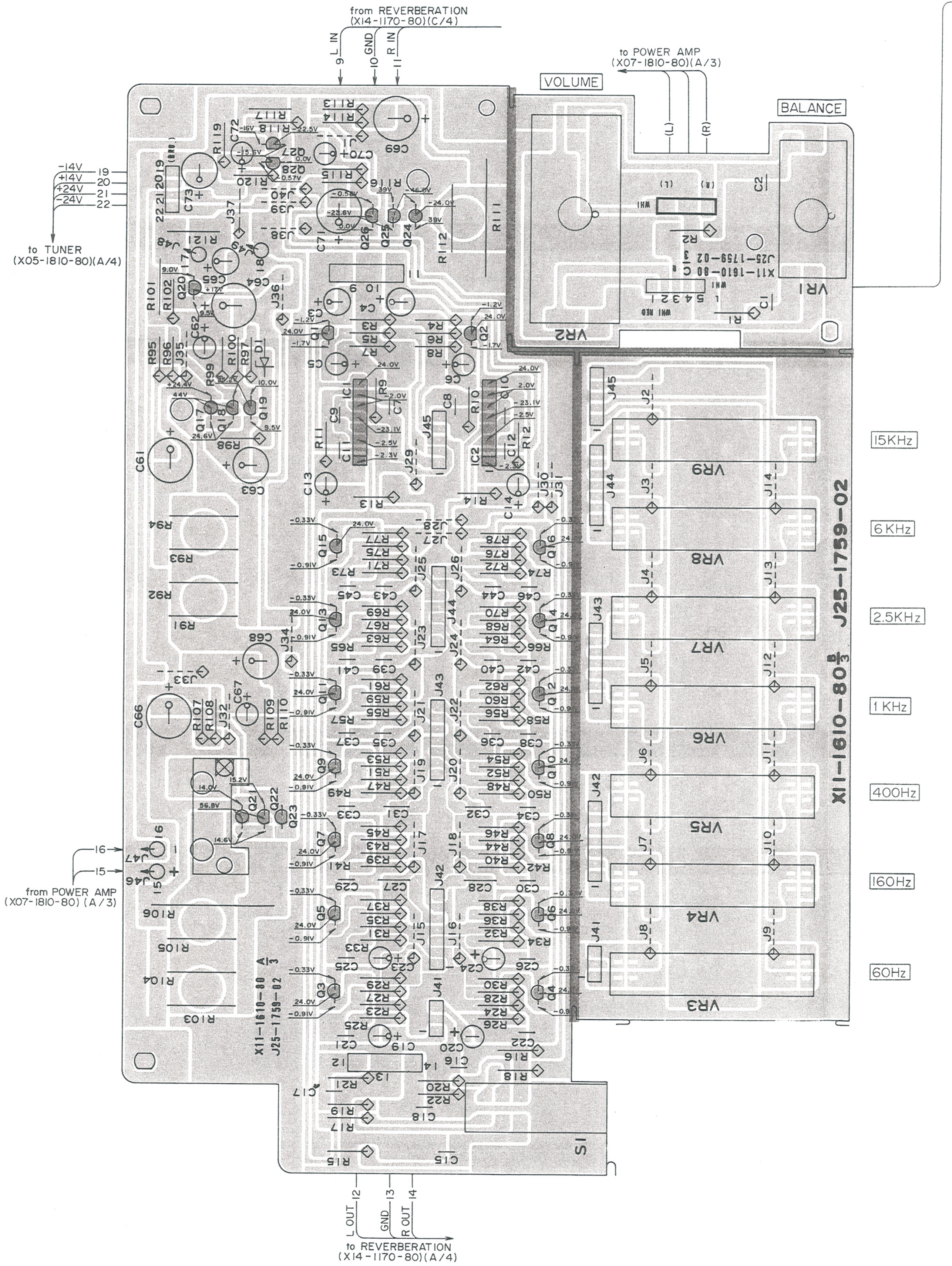

2SA1111
2SC2591
2SD330
2SD762


2SB600
2SD555

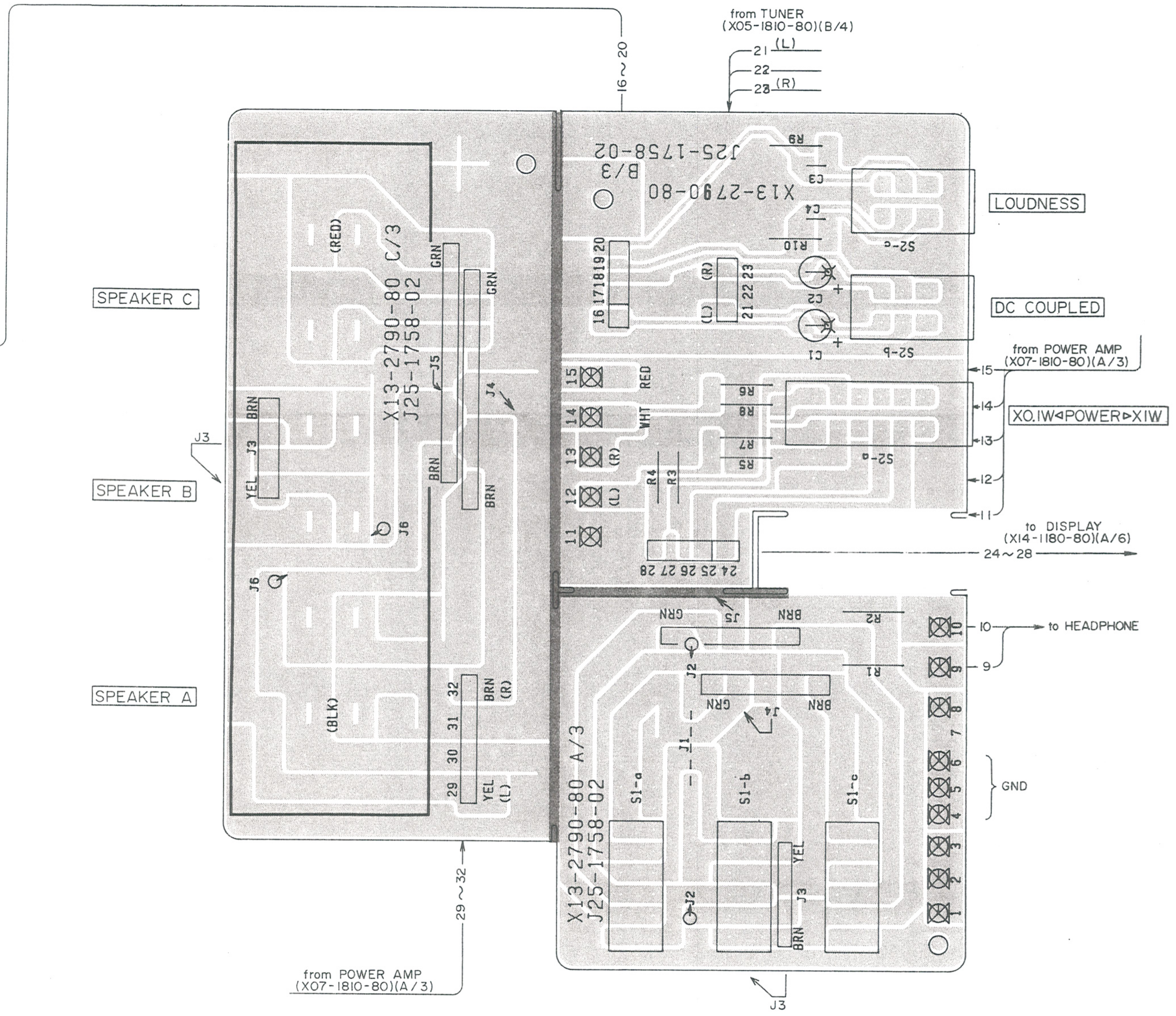
PC BOARD

CONTROL AMP (X11-1610-80) Component side view

Refer to the schematic diagram for the values of resistors and capacitors.

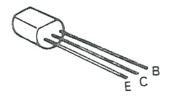

from REVERBERATION
(X14-1170-80)(C/4)
L IN 9
GND 10
R IN 11
to POWER AMP
(X07-1810-80)(A/3)
(L)
(R)
VOLUME
BALANCE
VR1
VR2
-14V 19
+14V 20
+24V 21
-24V 22
to TUNER
(X05-1810-80)(A/4)
15KHz
6KHz
2.5KHz
1KHz
400Hz
160Hz
60Hz
VR3
VR4
VR5
VR6
VR7
VR8
VR9
X11-1610-80 B/3
J25-1759-02
X11-1610-80 A/3
16
15
from POWER AMP
(X07-1810-80) (A/3)
S1
L OUT 12
GND 13
R OUT 14
to REVERBERATION
(X14-1170-80)(A/4)

SWITCH (X13-2790-80) Component side view

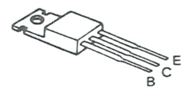

16～20
from TUNER
(X05-1810-80)(B/4)
21 (L)
22
23 (R)
X13-2790-80 B/3
J25-1758-02
LOUDNESS
DC COUPLED
SPEAKER C
SPEAKER B
SPEAKER A
X13-2790-80 C/3
J25-1758-02
(RED)
(BLK)
GRN
BRN
YEL
WHT
from POWER AMP
(X07-1810-80)(A/3)
15
14
13
12
11
XO.1W◁POWER▷X1W
to DISPLAY
(X14-1180-80)(A/6)
24～28
10 to HEADPHONE
9
GND
J3
29～32
from POWER AMP
(X07-1810-80)(A/3)
X13-2790-80 A/3
J25-1758-02
S1-a
S1-b
S1-c

IC1,2 : HA1457W
Q1～16 : 2SC1845 (F,E,U)
Q17, 24 : 2SD762 or 2SD330
Q18,19,22,23 : 2SC945
Q20 : 2SC2003
Q25,26,28 : 2SA733 (A)
Q27 : 2SA954
D1 : EQA01-10 (R)
Q21 : 2SD613

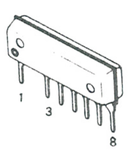
2SA733A
2SA954
2SC945
2SC1845
2SC2003



2SD330
2SD613
2SD762



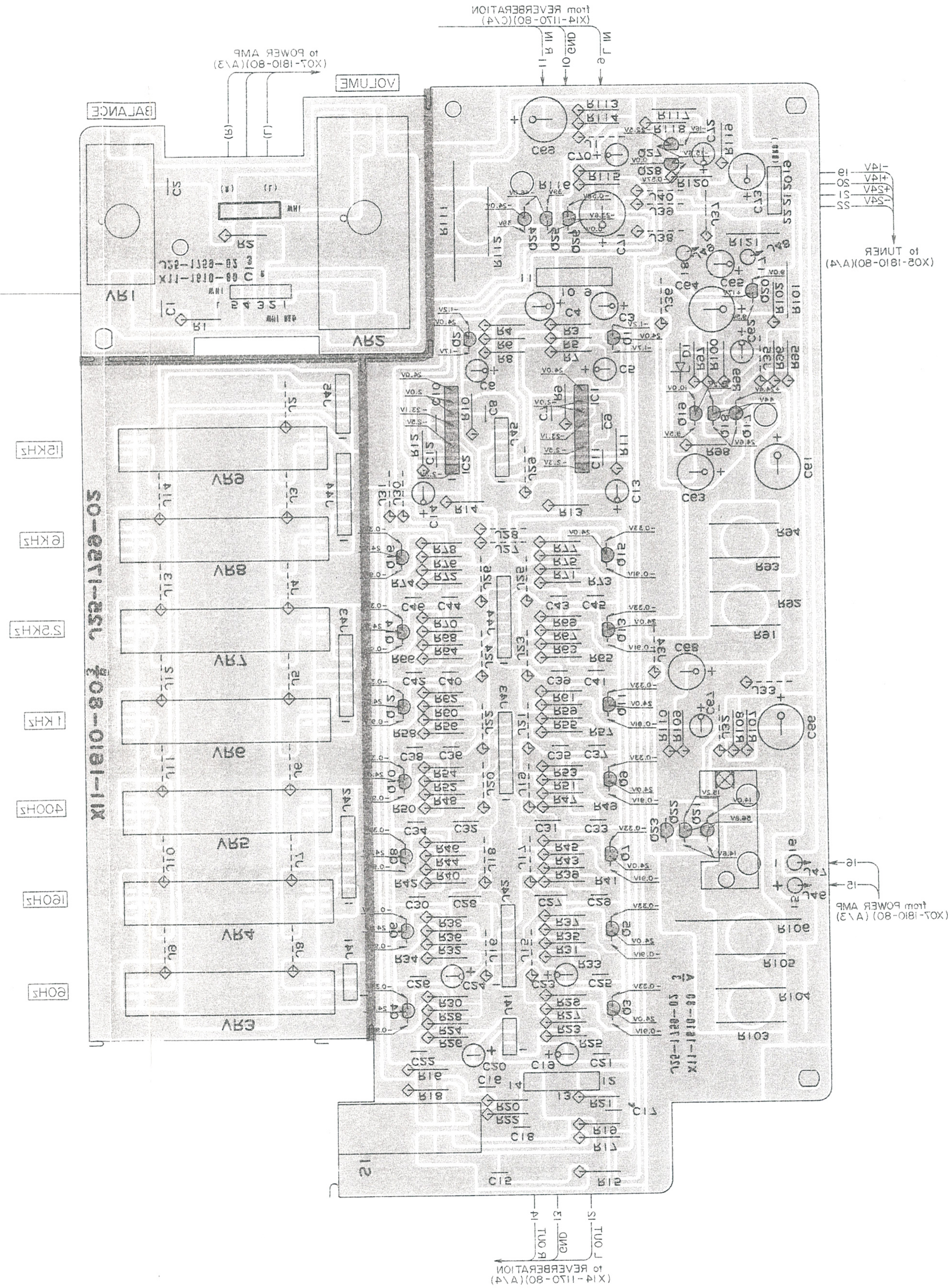
HA1457W



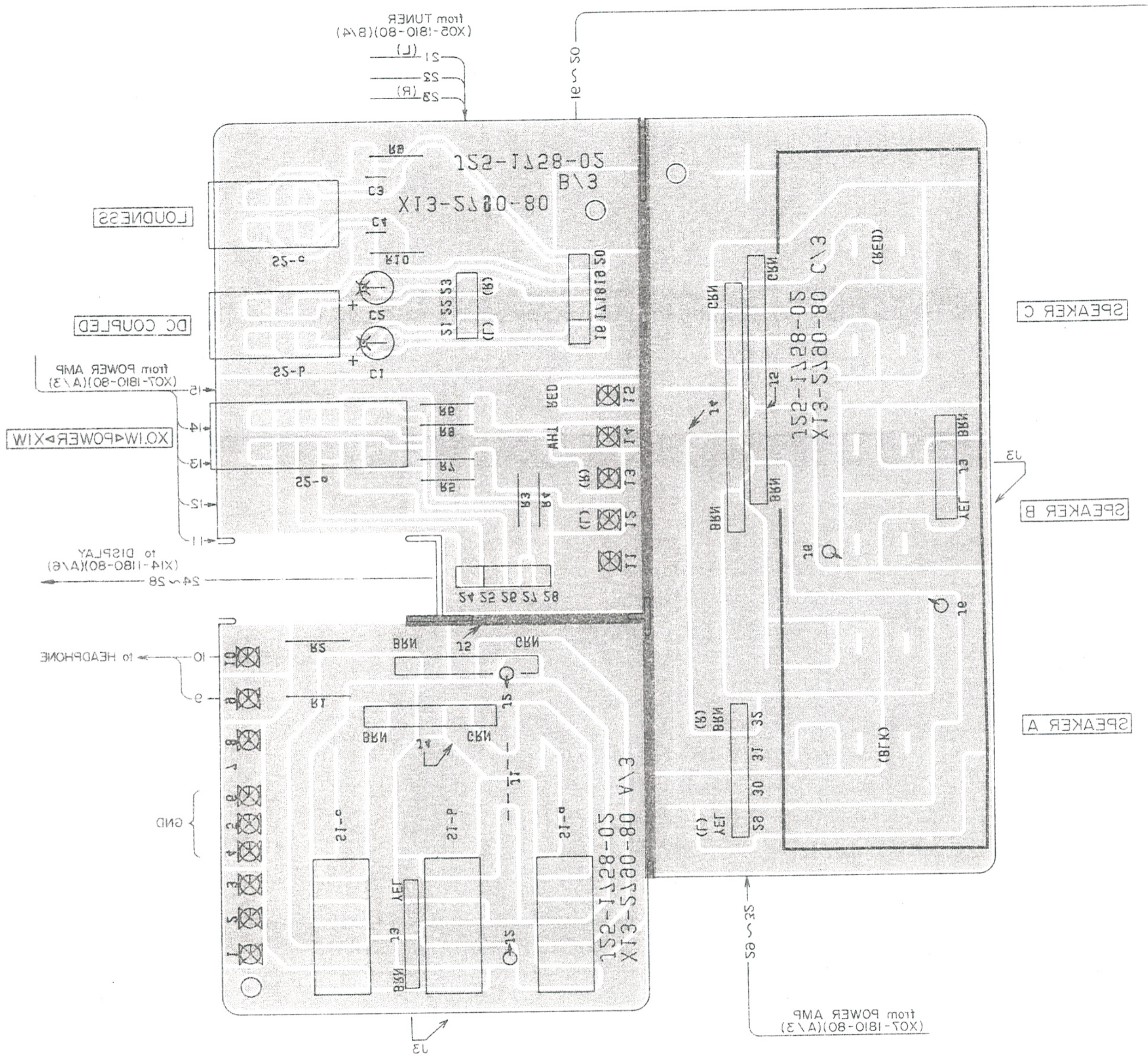
PC BOARD

CONTROL AMP (X11-1610-80) Component side view

Refer to the schematic diagram for the values of resistors and capacitors.

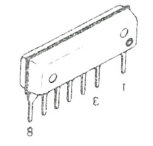

from REVERBERATION (X14-1170-80)(C/4)
to POWER AMP (X07-1810-80)(A/3)
VOLUME
BALANCE
VR1
VR2
to TUNER (X05-1810-80)(A/4)
15kHz
6kHz
2.5kHz
1kHz
400Hz
160Hz
60Hz
VR3
VR4
VR5
VR6
VR7
VR8
VR9
X11-1610-80
from POWER AMP (X07-1810-80)(A/3)
S1
to REVERBERATION (X14-1170-80)(A/4)

SWITCH (X13-2790-80) Component side view

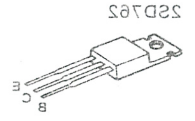

from TUNER (X05-1810-80)(B/4)
LOUDNESS
DC COUPLED
from POWER AMP (X07-1810-80)(A/3)
XO1W◄POWER►X1W
to DISPLAY (X14-1180-80)(A/6)
to HEADPHONE
GND
SPEAKER C
SPEAKER B
SPEAKER A
X13-2790-80
from POWER AMP (X07-1810-80)(A/3)

IC1,2 : HA1457W
Q1~16 : 2SC1845 (F,E,U)
Q17,24 : 2SD762 or 2SD330
Q18,19,22,23 : 2SC945
Q20 : 2SC2003
Q25,26,28 : 2SA733 (A)
Q27 : 2SA954
D1 : EQA01-10 (R)
Q21 : 2SD613

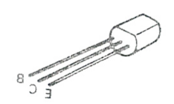
HA1457W



2SD330
2SD613
2SD762



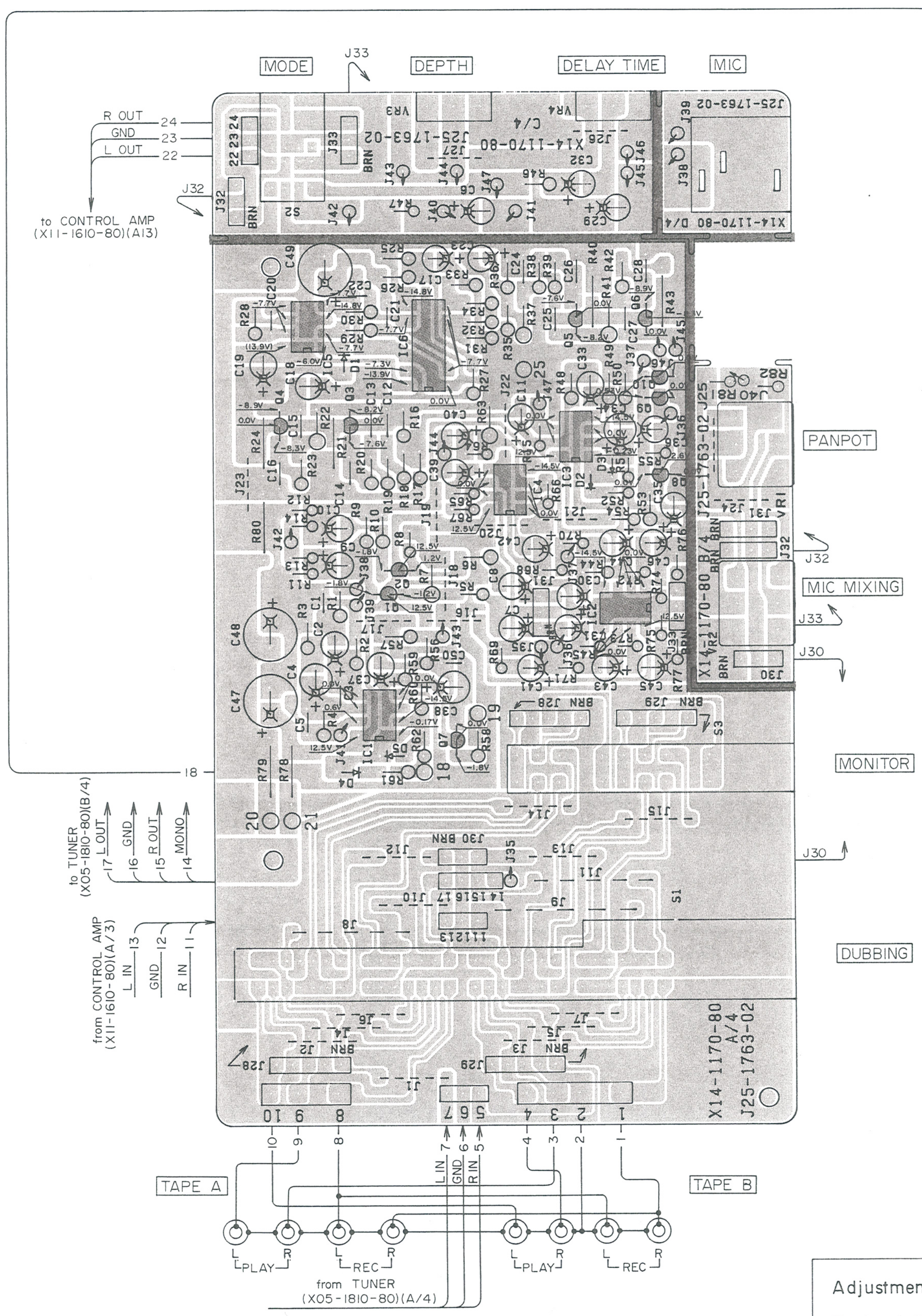
2SA733A
2SA954
2SC945
2SC1845
2SC2003



PC BOARD

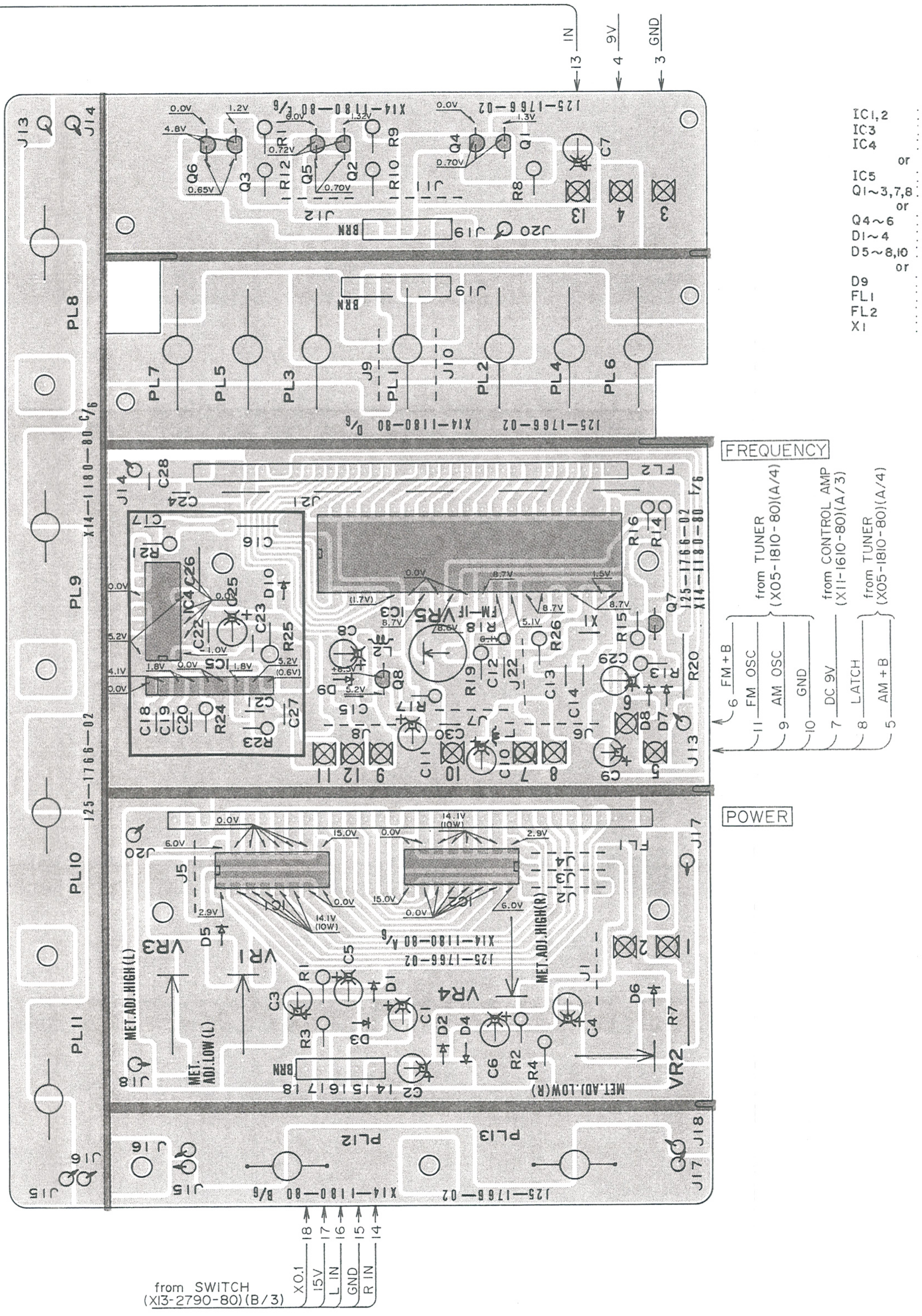
REVERBERATION (X14-1170-80) Component side view

Refer to the schematic diagram for the values of resistors and capacitors.


MODE
J33
DEPTH
DELAY TIME
MIC
R OUT 24
GND 23
L OUT 22
J32
to CONTROL AMP (X11-1610-80)(A13)
PANPOT
J32
MIC MIXING
J33
J30
MONITOR
J30
DUBBING
18
to TUNER (X05-1810-80)(B/4)
17 L OUT
16 GND
15 R OUT
14 MONO
from CONTROL AMP (X11-1610-80)(A/3)
13 L IN
12 GND
11 R IN
X14-1170-80 A/4
J25-1763-02
10 9 8 7 6 5 4 3 2 1
L IN
GND
R IN
TAPE A
TAPE B
L R
PLAY
L R
REC
L R
PLAY
L R
REC
from TUNER (X05-1810-80)(A/4)

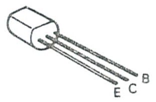
IC1~4	:AN6552 or NJM4558D
IC5	:MN3101
IC6	:MN3008
Q1~10	:2SC945(R,Q) or 2SC2320(E,F)
D1~5	:IS2076 or IS1555

DISPLAY (X14-1180-80) Component side view

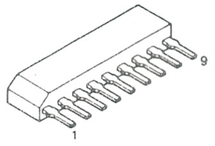

13 IN
4 9V
3 GND
FREQUENCY
6 FM+B
11 FM OSC
9 AM OSC
10 GND
7 DC 9V
8 LATCH
5 AM+B
from TUNER (X05-1810-80)(A/4)
from CONTROL AMP (X11-1610-80)(A/3)
from TUNER (X05-1810-80)(A/4)
POWER
X14-1180-80
J25-1766-02
VR1
VR2
VR3
VR4
VR5
MET. ADJ. HIGH (L)
MET. ADJ. LOW (L)
MET. ADJ. HIGH (R)
MET. ADJ. LOW (R)
FM-IF
18 XO.1
17 15V
16 L IN
15 GND
14 R IN
from SWITCH (X13-2790-80)(B/3)

IC1,2	:BA658
IC3	:LC7258
IC4	:SN74LS90N
or	F74LS90PC
IC5	:AN6821
Q1~3,7,8	:2SC945(R,Q)
or	2SC2320(E,F)
Q4~6	:2SC2003
D1~4	:IN60
D5~8,10	:IS2076
or	IS1555
D9	:XZ-057
FL1	:FIP24A15YS
FL2	:FIP7B8S
X1	:L77-0574-05

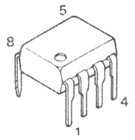
2SC945
2SC2003
2SC2320



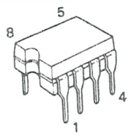
AN6821



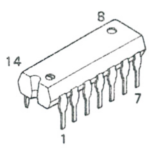
NJM4558D



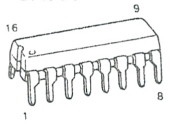
AN6552
MN3101



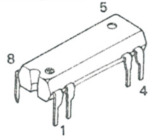
SN74LS90
F74LS90



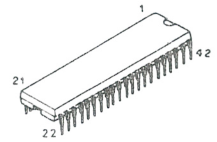
BA658



MN3108



LC7258

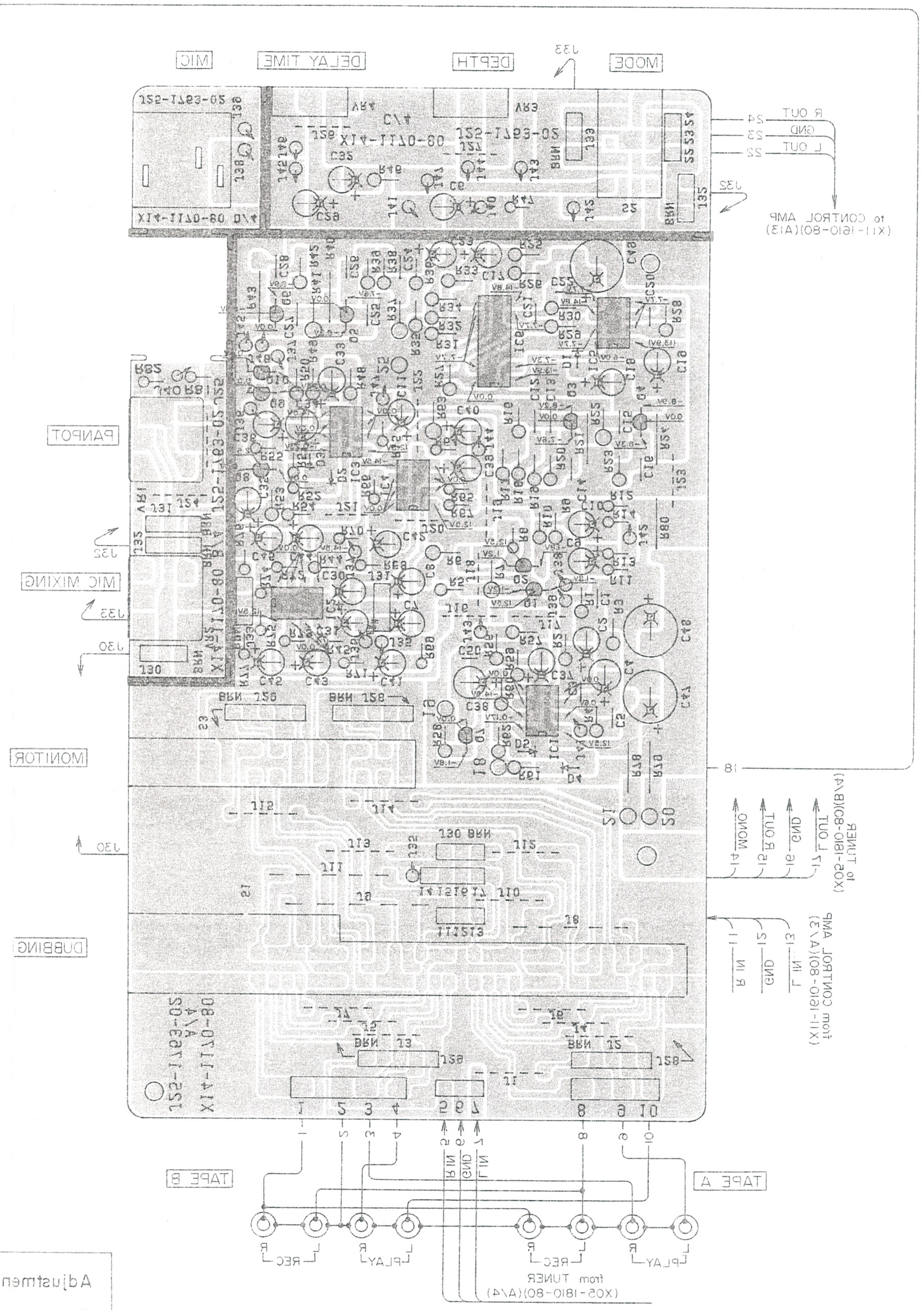


Adjustment and Test points	MET. ADJ. HIGH (L) VR 3	MET. ADJ. LOW (L) VR 1	FM : IF VR 5	MET. ADJ. HIGH (R) VR 4	MET. ADJ. LOW (R) VR 3

PC BOARD

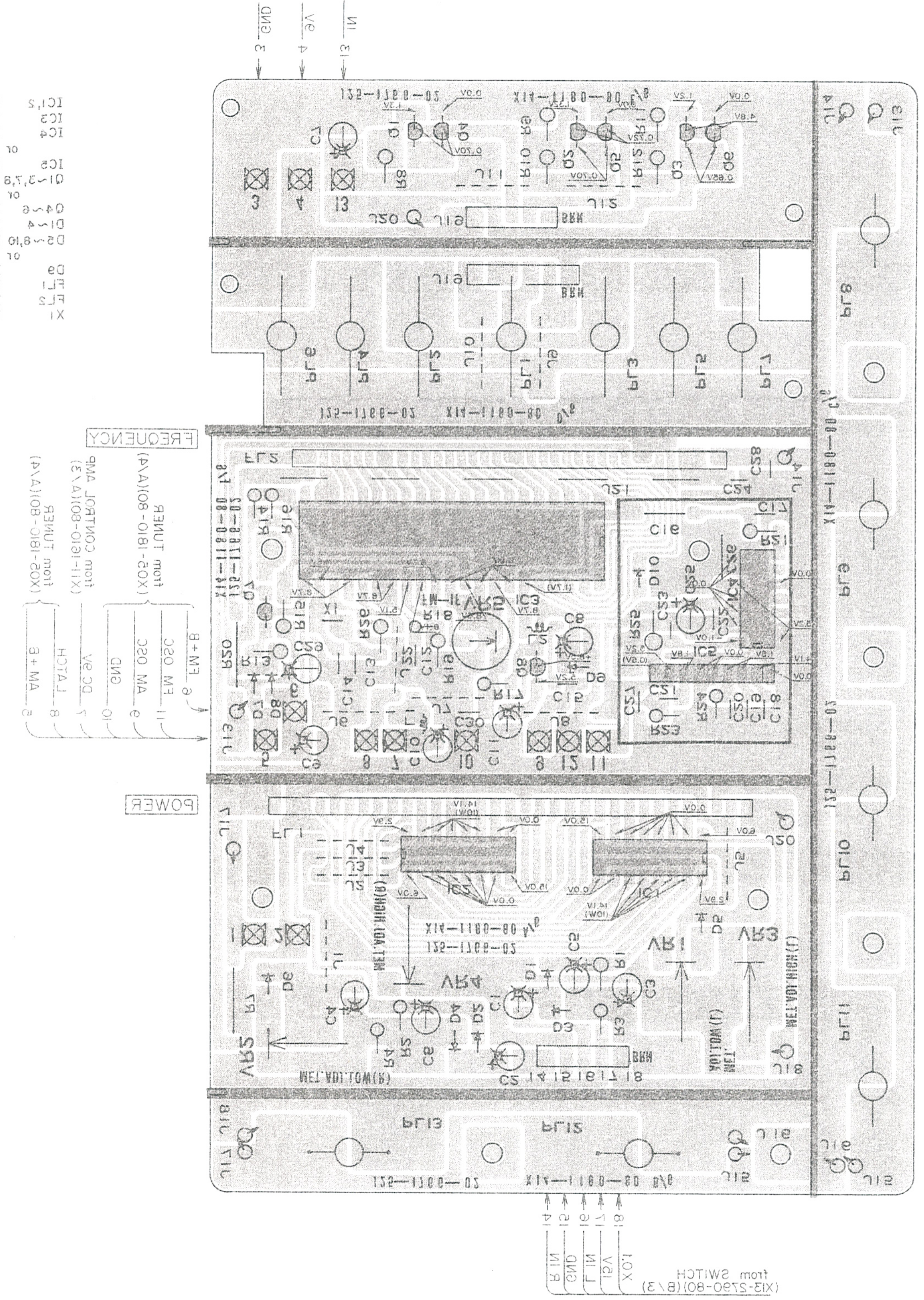
REVERBERATION (X14-1170-80) Component side view

Refer to the schematic diagram for the values of resistors and capacitors

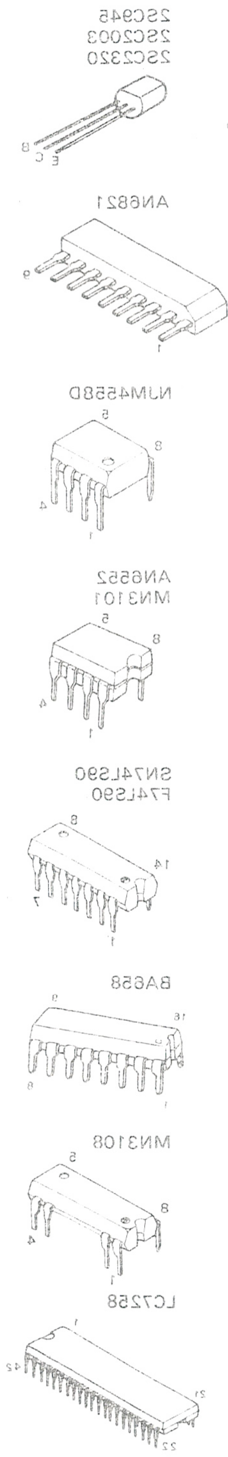

MIC
DELAY TIME
DEPTH
MODE
R OUT
GND
L OUT
to CONTROL AMP (X11-1610-80)(A/3)
PANPOT
MIC MIXING
MONITOR
DUBBING
to TUNER (X05-1810-80)(A/4)
MONO
R OUT
GND
L OUT
from CONTROL AMP (X11-1610-80)(A/3)
R IN
GND
L IN
TAPE B
TAPE A
REC
PLAY
from TUNER (X05-1810-80)(A/4)

IC1~4 : AN6552 or NJM4558D
IC5 : MN3101
IC6 : MN3008
Q1~10 : 2SC945(R,Q) or 2SC2320(E,F)
D1~3 : 1S2076 or 1S1555

DISPLAY (X14-1180-80) Component side view


FREQUENCY
POWER
from TUNER (X05-1810-80)(A/4)
B+
FM OSC
AM OSC
GND
DC 5V
HOLD
B+AM
from SWITCH (X13-2790-80)(B/3)
R IN
GND
L IN
MET.ADJ.HIGH(L)
MET.ADJ.LOW(L)
MET.ADJ.HIGH(R)
MET.ADJ.LOW(R)
VR1
VR2
VR3
VR4
VR5

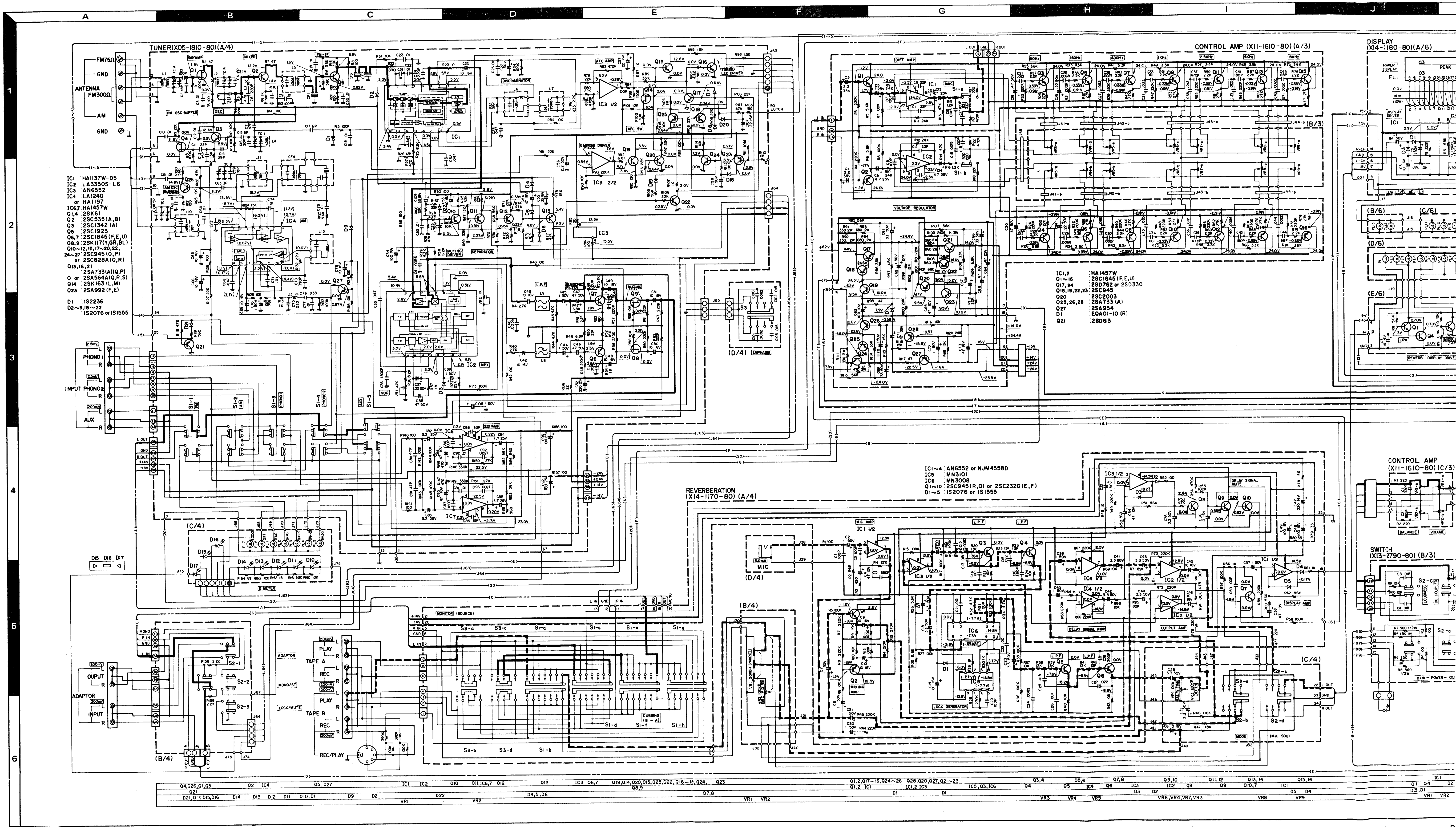
IC1,2 : BA658
IC3 : LC7258
IC4 : SN74LS90N
or F74LS90PC
IC5 : AN6821
Q1~3,7,8 : 2SC945(R,Q)
or 2SC2320(E,F)
Q4~6 : 2SC2003
D1~4 : 1N60
D5~8,10 : 1S2076
or 1S1555
D9 : XZ-057
FL1 : FIP24A15YS
FL2 : FIP7B8S
X1 : L77-0574-05

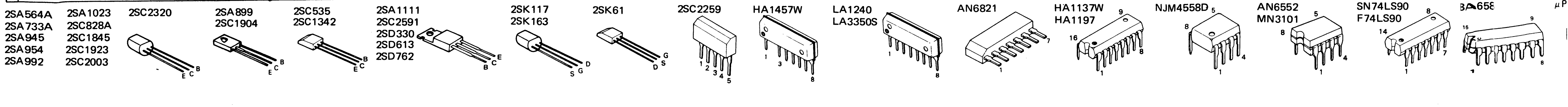

2SC945
2SC2003
2SC2320
E
C
B
AN6821
NJM4558D
AN6552
MN3101
SN74LS90
F74LS90
BA658
MN3108
LC7258

Adjustment and Test points					
	MET.ADJ. HIGH (L)	MET.ADJ. LOW (L)	FM IF	MET.ADJ. HIGH (R)	MET.ADJ. LOW (R)
	VR 3	VR 1	VR 5	VR 4	VR 3

KENWOOD

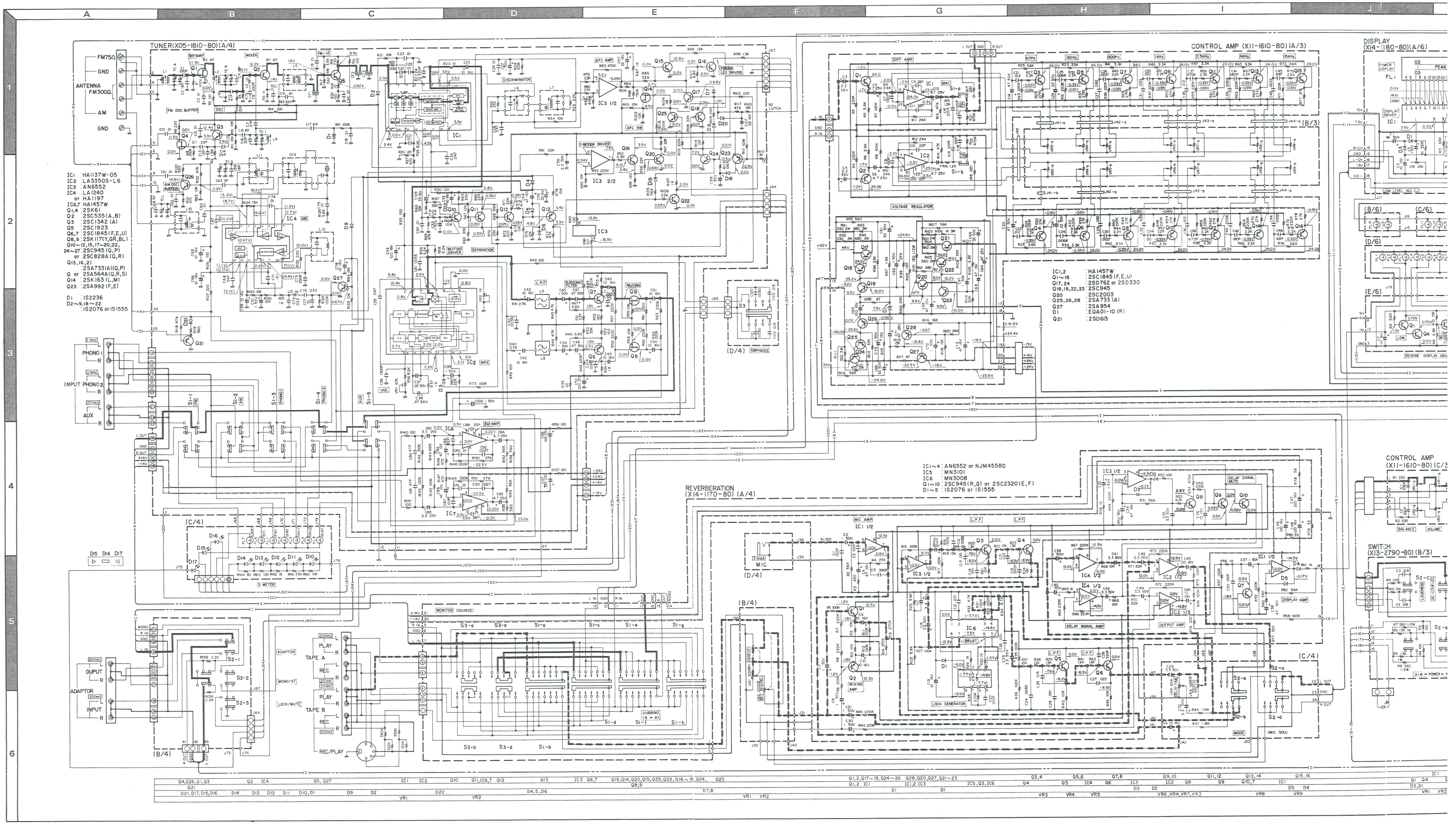
HIGH SPEED DC STEREO REC

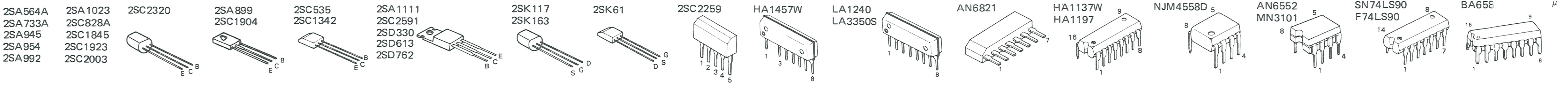

A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
TUNER(X05-1810-80)(A/4)
ANTENNA
FM75Ω
GND
FM300Ω
AM
GND
FM OSC BUFFER
AM OSC BUFFER
MIXER
FM-IF
DISCRIMINATOR
AFC AMP
AFC SW
TUNING LED DRIVER
S METER DRIVER
MUTING DRIVER
SEPARATION
L.P.F
SUBSONIC FILTER
MUTING
MPX
VCO
EQ AMP
IC1 :HA1137W-05
IC2 :LA3350S-L6
IC3 :AN6552
IC4 :LA1240
or HA1197
IC6,7 :HA1457W
Q1,4 :2SK61
Q2 :2SC535(A,B)
Q3 :2SC1342 (A)
Q5 :2SC1923
Q6,7 :2SC1845(F,E,U)
Q8,9 :2SK117(Y,GR,BL)
Q10~12,15,17~20,22,
24~27 :2SC945(Q,P)
or 2SC828A(Q,R)
Q13,16,21
:2SA733(A)(Q,P)
Q or 2SA564A(Q,R,S)
Q14 :2SK163 (L,M)
Q23 :2SA992 (F,E)
D1 :1S2236
D2~9,18~22
:1S2076 or 1S1555
PHONO 1
INPUT PHONO 2
AUX
2.5mV
200mV
(C/4)
S METER
(D/4)
EMPHASIS
MONITOR (SOURCE)
ADAPTOR
MONO/ST
LOCK/MUTE
OUPUT
INPUT
PLAY
TAPE A
REC
TAPE B
REC/PLAY
DUBBING (B→A)
(B/4)
CONTROL AMP (X11-1610-80)(A/3)
DIFF AMP
VOLTAGE REGULATOR
60Hz
160Hz
400Hz
1kHz
2.5kHz
6kHz
15kHz
(B/3)
IC1,2 :HA1457W
Q1~16 :2SC1845(F,E,U)
Q17,24 :2SD762 or 2SD330
Q18,19,22,23 :2SC945
Q20 :2SC2003
Q25,26,28 :2SA733 (A)
Q27 :2SA954
D1 :EQA01-10 (R)
Q21 :2SD613
REVERBERATION
(X14-1170-80)(A/4)
IC1~4 :AN6552 or NJM4558D
IC5 :MN3101
IC6 :MN3008
Q1~10 :2SC945(R,Q) or 2SC2320(E,F)
D1~5 :1S2076 or 1S1555
MIC AMP
MIC
MIXING AMP
LOCK GENERATOR
DELAY SIGNAL AMP
DELAY SIGNAL MUTE
OUTPUT AMP
DISPLAY AMP
MODE
(MIC 90U)
(C/4)
DISPLAY
(X14-1180-80)(A/6)
PEAK
LOW LEVEL ADJ
REVERB DISPLAY DRIVE
CONTROL AMP
(X11-1610-80)(C/3)
BALANCE
VOLUME
SWITCH
(X13-2790-80)(B/3)
LOUDNESS
DC COUPLED
POWER

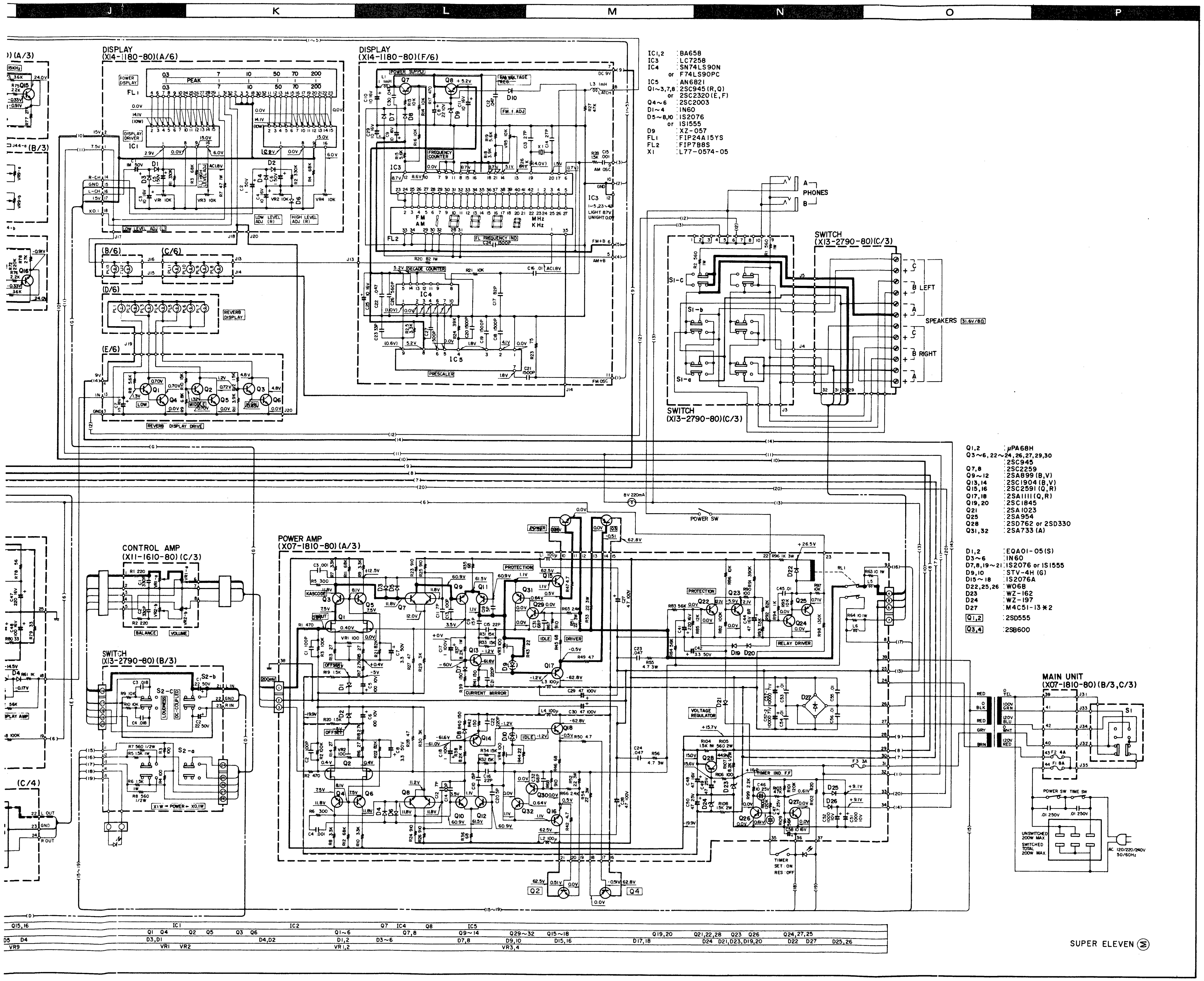

2SA564A
2SA733A
2SA945
2SA954
2SA992
2SA1023
2SC828A
2SC1845
2SC1923
2SC2003
2SC2320
2SA899
2SC1904
2SC535
2SC1342
2SA1111
2SC2591
2SD330
2SD613
2SD762
2SK117
2SK163
2SK61
2SC2259
HA1457W
LA1240
LA3350S
AN6821
HA1137W
HA1197
NJM4558D
AN6552
MN3101
SN74LS90
F74LS90
E
C
B
S
D
G
1
2
3
4
5
8
16
9
14
7

KENWOOD

HIGH SPEED DC STEREO RE

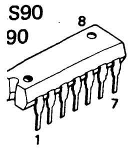

A B C D E F G H I J
TUNER (X05-1810-80) (A/4)
FM75Ω
GND
ANTENNA FM300Ω
AM
GND
IC1 : HA1137W-05
IC2 : LA3350S-L6
IC3 : AN6552
IC4 : LA1240
or HA1197
IC6,7 : HA1457W
Q1,4 : 2SK61
Q2 : 2SC535 (A,B)
Q3 : 2SC1342 (A)
Q5 : 2SC1923
Q6,7 : 2SC1845 (F,E,U)
Q8,9 : 2SK117 (Y,GR,BL)
Q10~12,15,17~20,22,
24~27 : 2SC945 (Q,P)
or 2SC828A (Q,R)
Q13,16,21
: 2SA733 (A) (Q,P)
Q or 2SA564A (Q,R,S)
Q14 : 2SK163 (L,M)
Q23 : 2SA992 (F,E)
D1 : 1S2236
D2~9,18~22
: 1S2076 or 1S1555
PHONO 1
INPUT PHONO 2
AUX
S METER
MONITOR (SOURCE)
TAPE A
TAPE B
REC/PLAY
ADAPTOR
OUPUT
INPUT
MONO/ST
LOCK/MUTE
DUBBING
CONTROL AMP (X11-1610-80) (A/3)
DIFF AMP
VOLTAGE REGULATOR
IC1,2 : HA1457W
Q1~16 : 2SC1845 (F,E,U)
Q17,24 : 2SD762 or 2SD330
Q18,19,22,23 : 2SC945
Q20 : 2SC2003
Q25,26,28 : 2SA733 (A)
Q27 : 2SA954
D1 : EQA01-10 (R)
Q21 : 2SD613
DISPLAY (X14-1180-80) (A/6)
REVERBERATION (X14-1170-80) (A/4)
IC1~4 : AN6552 or NJM4558D
IC5 : MN3101
IC6 : MN3008
Q1~10 : 2SC945 (R,Q) or 2SC2320 (E,F)
D1~5 : 1S2076 or 1S1555
MIC AMP
MIXING AMP
LOCK GENERATOR
DELAY SIGNAL AMP
OUTPUT AMP
DISPLAY AMP
DELAY SIGNAL MUTE
MODE
MIC
CONTROL AMP (X11-1610-80) (C/3)
SWITCH (X13-2790-80) (B/3)
BALANCE
VOLUME
LOUDNESS
DC COUPLE

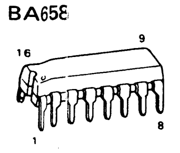

2SA564A
2SA733A
2SA945
2SA954
2SA992
2SA1023
2SC828A
2SC1845
2SC1923
2SC2003
2SC2320
2SA899
2SC1904
2SC535
2SC1342
2SA1111
2SC2591
2SD330
2SD613
2SD762
2SK117
2SK163
2SK61
2SC2259
HA1457W
LA1240
LA3350S
AN6821
HA1137W
HA1197
NJM4558D
AN6552
MN3101
SN74LS90
F74LS90
BA658
E C B
B C E
S G D
D S G

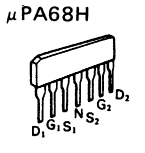

J
K
L
M
N
O
P
DISPLAY (X14-1180-80)(A/6)
DISPLAY (X14-1180-80)(F/6)
PEAK
FL1
IC1
IC3
IC4
IC5
POWER SUPPLY
FREQUENCY COUNTER
DECADE COUNTER
PRESCALER
LOW LEVEL ADJ
REVERB DISPLAY
REVERB DISPLAY DRIVE
PHONES
SWITCH (X13-2790-80)(C/3)
SPEAKERS
LEFT
RIGHT
CONTROL AMP (X11-1610-80)(C/3)
BALANCE
VOLUME
SWITCH (X13-2790-80)(B/3)
POWER AMP (X07-1810-80)(A/3)
PROTECTION
CURRENT MIRROR
DRIVER
IDLE
RELAY DRIVER
VOLTAGE REGULATOR
TIMER IND. F.F
POWER SW
TIMER SET ON RES OFF
MAIN UNIT (X07-1810-80)(B/3,C/3)
POWER SW TIME SW
UNSWITCHED 200W MAX
SWITCHED TOTAL 200W MAX
AC 120/220/240V 50/60Hz
SUPER ELEVEN (M)

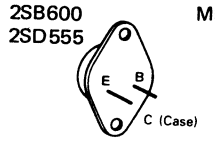
IC1,2	:BA658
IC3	:LC7258
IC4	:SN74LS90N
or	F74LS90PC
IC5	:AN6821
Q1~3,7,8	:2SC945(R,Q)
or	2SC2320(E,F)
Q4~6	:2SC2003
D1~4	:IN60
D5~8,10	:IS2076
or	IS1555
D9	:XZ-057
FL1	:FIP24A15YS
FL2	:FIP7B8S
X1	:L77-0574-05

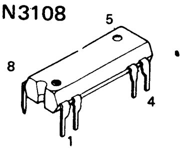
Q1,2	:µPA68H
Q3~6,22~24,26,27,29,30	:2SC945
Q7,8	:2SC2259
Q9~12	:2SA899(B,V)
Q13,14	:2SC1904(B,V)
Q15,16	:2SC2591(Q,R)
Q17,18	:2SA1111(Q,R)
Q19,20	:2SC1845
Q21	:2SA1023
Q25	:2SA954
Q28	:2SD762 or 2SD330
Q31,32	:2SA733(A)
D1,2	:EQA01-05(S)
D3~6	:IN60
D7,8,19~21	:IS2076 or IS1555
D9,10	:STV-4H(G)
D15~18	:IS2076A
D22,25,26	:W06B
D23	:WZ-162
D24	:WZ-197
D27	:M4C51-13 ✱2
Q1,2	:2SD555
Q3,4	:2SB600

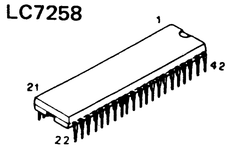



BA658
16
9
8
1

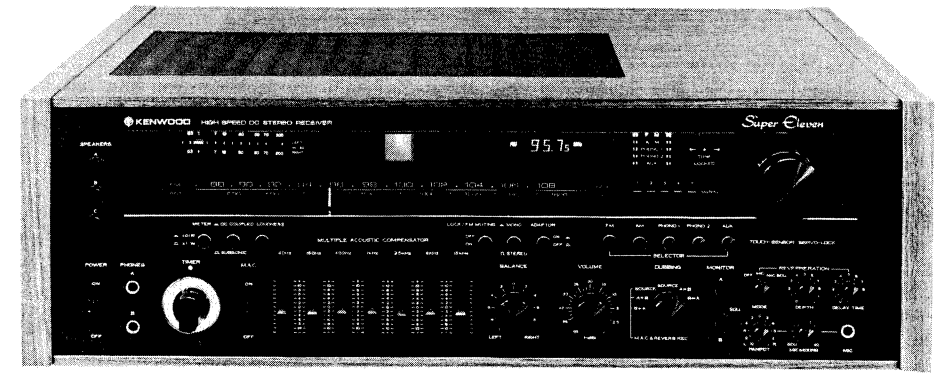

µPA68H
D1
G1
S1
N
S2
G2
D2


2SB600
2SD555
E
B
C (Case)


MN3108
5
8
4
1


LC7258
1
42
21
22

DC voltages are measured by a VOM of 20 kΩ/V input impedance.


KENWOOD
HIGH SPEED DC STEREO RECEIVER
Super Eleven

SPECIFICATIONS

AUDIO SECTION

Power Output

125 watts* per channel minimum RMS, both channel driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.02% total harmonic distortion.

Total Harmonic Distortion	
(20 Hz to 20,000 Hz from TAPE)	
rated power into 8 ohms	0.02%
1 watt power into 8 ohms	0.008%
Intermoduration Distortion	
(60 Hz : 7 kHz = 4 : 1 SMPTE)	
rated power into 8 ohms	0.01%
1 watt power into 8 ohms	0.008%
Slew Rate	±140V/µsec
Rise Time	0.95 µsec
Damping Factor	
(8 ohms at 1 kHz)	60
Input Sensitivity/Impedance	
PHONO	2.5 mV/50k ohms
TAPE, AUX	200 mV/50k ohms
MIC	3.0 mV/50k ohms
Signal to Noise Ratio (A weighted)	
PHONO	80 dB for 2.5 mV input 86 dB for 5.0 mV input
TAPE, AUX	105 dB for 200 mV input
MIC	70 dB for 3.0 mV input
Maximum PHONO Input Level	
at 1,000 Hz	180 mV (rms), THD 0.02%
Frequency Response	
PHONO RIAA	
Standard Curve	20 Hz to 20,000 Hz ±0.3 dB
TAPE, AUX	DC Hz to 230,000 Hz −3 dB
Multiple Acoustic Compensator	
60 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6 kHz and 15 kHz	±10 dB at each frequency
Loudness Control	
(VOL. −30 dB)	+10 dB at 100 Hz
Subsonic Filter	18 Hz 6 dB/oct
Output Level/Impedance	
TAPE REC Out (Pin)	200 mV/300 ohms
TAPE REC Out (DIN)	40 mV/75k ohms

REVERB SECTION

Reverberating Time	0 to 3 sec at 400 Hz
Delay Time	100 msec

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

FM TUNER SECTION

Usable Sensitivity	10.3 dBf (1.8 µV)
50 dB Quieting Sensitivity	
Mono	14.7 dBf (3.0 µV)
Stereo	37.2 dBf (40 µV)
Signal to Noise Ratio at 65 dBf	
Mono	78 dB
Stereo	73 dB
Total Harmonic Distortion at 1,000 Hz	
Mono	0.1%
Stereo	0.15%
Frequency Response	20 Hz to 15,000 Hz +0.5 dB, −1.0 dB
Capture Ratio	1.0 dB
Image Rejection Ratio	60 dB
Spurious Response Ratio	80 dB
IF Response Ratio	80 dB
Alternate Channel Selectivity	75 dB at 400 kHz
AM Suppression Ratio	65 dB
Stereo Separation Ratio	
at 1,000 Hz	50 dB
at 100 Hz to 10,000 Hz	40 dB
Subcarrier Product Ratio	46 dB
Antenna Impedance	300 ohms balanced and 75 ohms unbalanced
FM Frequency Range	88 MHz to 108 MHz

AM TUNER SECTION

Usable Sensitivity	15 µV (350 µV/m)
Signal to Noise Ratio	50 dB
Image Rejection	50 dB
Selectivity	30 dB

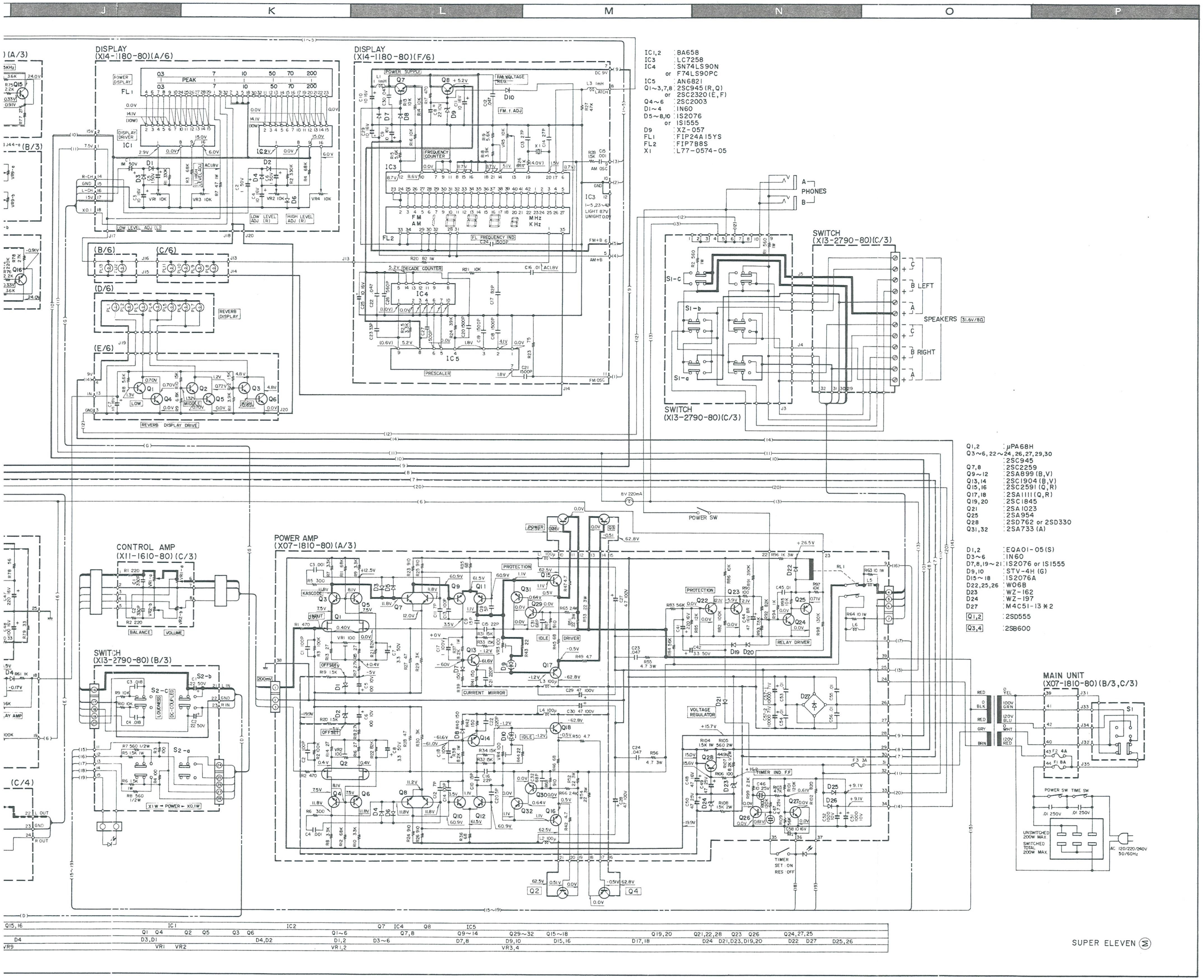
GENERAL

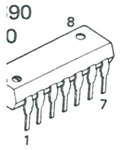
Power Consumption	710 watts at full power 80 watts at no signal
AC Outlets	Switched 2, Unswitched 1
Dimensions	W 624 mm (24-9/16") H 206 mm (8-1/8") D 460 mm (18-1/8")
Net Weight	20.2 kg (44.5 lb)
Gross Weight	24.5 kg (54.0 lb)

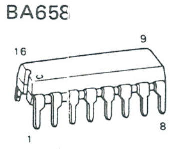
* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

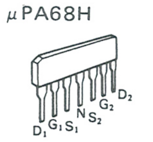
EED DC STEREO RECEIVER

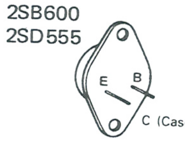
Super Eleven

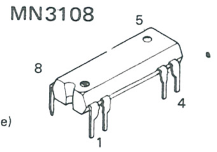

J
K
L
M
N
O
P
DISPLAY (X14-1180-80)(A/6)
DISPLAY (X14-1180-80)(F/6)
IC1,2 : BA658
IC3 : LC7258
IC4 : SN74LS90N
or F74LS90PC
IC5 : AN6821
Q1~3,7,8 : 2SC945(R,Q)
or 2SC2320(E,F)
Q4~6 : 2SC2003
D1~4 : 1N60
D5~8,10 : 1S2076
or 1S1555
D9 : XZ-057
FL1 : FIP24A15YS
FL2 : FIP7B8S
X1 : L77-0574-05
PHONES
SWITCH (X13-2790-80)(C/3)
SPEAKERS
LEFT
RIGHT
REVERB DISPLAY DRIVE
CONTROL AMP (X11-1610-80)(C/3)
SWITCH (X13-2790-80)(B/3)
POWER AMP (X07-1810-80)(A/3)
POWER SW
PROTECTION
RELAY DRIVER
CURRENT MIRROR
VOLTAGE REGULATOR
Q1,2 : µPA68H
Q3~6, 22~24, 26, 27, 29, 30 : 2SC945
Q7,8 : 2SC2259
Q9~12 : 2SA899(B,V)
Q13,14 : 2SC1904(B,V)
Q15,16 : 2SC2591(Q,R)
Q17,18 : 2SA1111(Q,R)
Q19,20 : 2SC1845
Q21 : 2SA1023
Q25 : 2SA954
Q28 : 2SD762 or 2SD330
Q31,32 : 2SA733(A)
D1,2 : EQA01-05(S)
D3~6 : 1N60
D7,8,19~21 : 1S2076 or 1S1555
D9,10 : STV-4H(G)
D15~18 : 1S2076A
D22,25,26 : W06B
D23 : WZ-162
D24 : WZ-197
D27 : M4C51-13✱2
Q1,2 : 2SD555
Q3,4 : 2SB600
MAIN UNIT (X07-1810-80)(B/3,C/3)
TIMER SET ON RES OFF
AC 120/220/240V 50/60Hz
SUPER ELEVEN

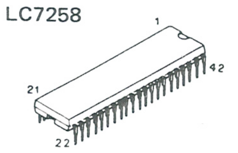



BA658
16
9
8
1

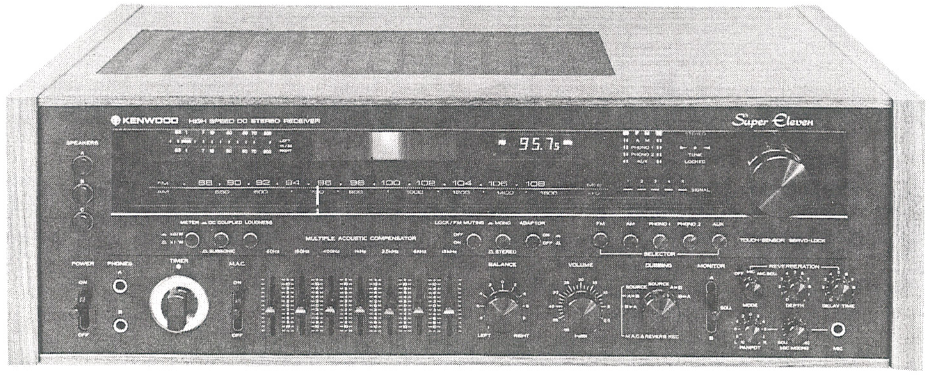

µPA68H
D1 G1 S1 N S2 G2 D2


2SB600
2SD555
E
B
C (Case)


MN3108
5
8
4
1


LC7258
1
42
21
22

DC voltages are measured by a VOM of 20 kΩ/V input impedance.



SPECIFICATIONS

AUDIO SECTION

Power Output

125 watts* per channel minimum RMS, both channel driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.02% total harmonic distortion.

Total Harmonic Distortion	
(20 Hz to 20,000 Hz from TAPE)	
rated power into 8 ohms	0 02%
1 watt power into 8 ohms	0 008%
Intermoduration Distortion	
(60 Hz : 7 kHz = 4 : 1 SMPTE)	
rated power into 8 ohms	0 01%
1 watt power into 8 ohms	0 008%
Slew Rate	±140V/µsec
Rise Time	0 95 µsec
Damping Factor	
(8 ohms at 1 kHz)	60
Input Sensitivity/Impedance	
PHONO	2 5 mV/50k ohms
TAPE, AUX	200 mV/50k ohms
MIC	3 0 mV/50k ohms
Signal to Noise Ratio (A weighted)	
PHONO	80 dB for 2 5 mV input 86 dB for 5 0 mV input
TAPE, AUX	105 dB for 200 mV input
MIC	70 dB for 3 0 mV input
Maximum PHONO Input Level	
at 1,000 Hz	180 mV (rms), THD 0 02%
Frequency Response	
PHONO RIAA	
Standard Curve	20 Hz to 20,000 Hz ±0 3 dB
TAPE, AUX	DC Hz to 230,000 Hz −3 dB
Multiple Acoustic Compensator	
60 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6 kHz and 15 kHz	±10 dB at each frequency
Loudness Control	
(VOL. −30 dB)	+10 dB at 100 Hz
Subsonic Filter	18 Hz 6 dB/oct
Output Level/Impedance	
TAPE REC Out (Pin)	200 mV/300 ohms
TAPE REC Out (DIN)	40 mV/75k ohms

REVERB SECTION

Reverberating Time	0 to 3 sec at 400 Hz
Delay Time	100 msec

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

FM TUNER SECTION

Usable Sensitivity	10.3 dBf (1.8 µV)
50 dB Quieting Sensitivity	
Mono	14.7 dBf (3.0 µV)
Stereo	37.2 dBf (40 µV)
Signal to Noise Ratio at 65 dBf	
Mono	78 dB
Stereo	73 dB
Total Harmonic Distortion at 1,000 Hz	
Mono	0.1%
Stereo	0.15%
Frequency Response	20 Hz to 15,000 Hz +0.5 dB, −1.0 dB
Capture Ratio	1.0 dB
Image Rejection Ratio	60 dB
Spurious Response Ratio	80 dB
IF Response Ratio	80 dB
Alternate Channel Selectivity	75 dB at 400 kHz
AM Suppression Ratio	65 dB
Stereo Separation Ratio	
at 1,000 Hz	50 dB
at 100 Hz to 10,000 Hz	40 dB
Subcarrier Product Ratio	46 dB
Antenna Impedance	300 ohms balanced and 75 ohms unbalanced
FM Frequency Range	88 MHz to 108 MHz

AM TUNER SECTION

Usable Sensitivity	15 µV (350 µV/m)
Signal to Noise Ratio	50 dB
Image Rejection	50 dB
Selectivity	30 dB

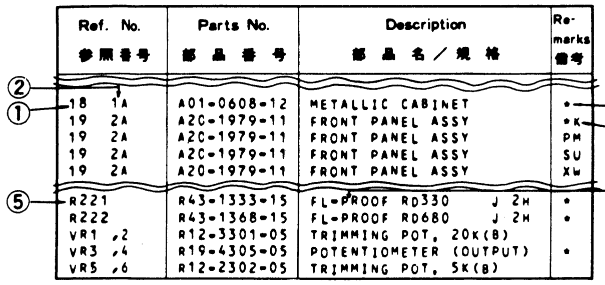
GENERAL

Power Consumption	710 watts at full power 80 watts at no signal
AC Outlets	Switched 2, Unswitched 1
Dimensions	W 624 mm (24-9/16") H 206 mm (8-1/8") D 460 mm (18-1/8")
Net Weight	20.2 kg (44.5 lb)
Gross Weight	24.5 kg (54.0 lb)

* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

PARTS LIST

INSTRUCTION FOR PARTS LIST



Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Re-marks 備考
18 1A	A01-0608-12	METALLIC CABINET	*
19 2A	A20-1979-11	FRONT PANEL ASSY	*K
19 2A	A20-1979-11	FRONT PANEL ASSY	PM
19 2A	A20-1979-11	FRONT PANEL ASSY	SU
19 2A	A20-1979-11	FRONT PANEL ASSY	XW
R221	R43-1333-15	FL-PROOF RD330 J 2H	*
R222	R43-1368-15	FL-PROOF RD680 J 2H	*
VR1 ,2	R12-3301-05	TRIMMING POT, 20K(B)	
VR3 ,4	R19-4305-05	POTENTIOMETER (OUTPUT)	*
VR5 ,6	R12-2302-05	TRIMMING POT, 5K(B)	

① Exploded view drawing No.
② Position in exploded view.
③ Symbol of new parts.
④ Area to which parts are shipped. Example: A20-1979-11 is the part No. of FRONT PANEL ASS'Y for the "K" type products (for U.S.A.). When this column is blank, it means that the same type of parts (same parts No.) are used for the products shipped to all areas.
⑤ Reference No. in schematic diagram.
⑥ Abbreviation of "ceramic capacitor".
All capacitors and resistors are listed using abbreviations.
Abbreviations.

* Abbreviations of capacitors (Parts No. with initial letter "C").

ELECTRO	Electrolytic capacitor
LL-ELEC	Low leak electrolytic capacitor
NP-ELEC	Non-pole electrolytic capacitor
MICA	Mica capacitor
POLYSTY	Polystyrene capacitor
MYLAR	Mylar capacitor
CERAMIC	Ceramic capacitor
TANTAL	Tantalum capacitor
MF	Metallized film capacitor
MP	Metallized paper capacitor
OIL	Oil capacitor

The unit "UF" is used in lieu of "μF"

* Abbreviations of resistors (Parts No. with initial letters "R").

RC	Carbon composition resistor
RD	Carbon film resistor
FL-PROOF RD	Flame-proof carbon film resistor
RW	Wire wound power resistor
FL-PROOF RS	Flame-proof metal oxide film resistor
RN	Metal film resistor
FUSE-RESIST	Resistor with fuse function
2B	Rated wattage 1/8W
2E	Rated wattage 1/4W
2H	Rated wattage 1/2W
3A	Rated wattage 1W
3D	Rated wattage 2W
3F	Rated wattage 3W
3G	Rated wattage 4W
3H	Rated wattage 5W

All resistor values are indicated with the unit (Ω) omitted.

* Abbreviations common to capacitors and resistors.

C	±0.25pF (Used for capacitors only)
D	±0.5pF (Used for capacitors only)
F	±1%
G	±2%
J	±5%
K	±10%
M	±20%
Z	+80%, −20%(Used for capacitors only)
P	+100%, −0%(Used for capacitors only)

Resistors RD (carbon composition resistors) are not listed in the parts list. For values, refer to the schematic diagram.

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Re-marks 備考
UNIT (SUPER ELEVEN)			
1 2E	-	SUB CHASSIS	
2 1E	-	METALLIC FRAME	
3 2E	-	SUB PANEL	
4 1B	-	REAR PANEL	
5 3D	-	REFLECTOR	*
6 3B	-	BOTTOM PLATE	
7 2C	-	HEAT SINK	
8 2D,3D	-	CUSHION	
9 1C-3F	-	MOUNTING HARDWARE	
11 3A	A20-1625-03	FRONT PANEL	*
12 2A	A50-0069-03	SIDE PLATE (L)	
13 2B	A50-0070-03	SIDE PLATE (R)	
14 1A	A54-0175-02	WOODEN TOP BOARD	
-	B46-0062-20	WARRANTY CARD	UH
-	B46-0062-20	WARRANTY CARD	UE
-	B46-0063-13	WARRANTY CARD	UH
-	B46-0063-13	WARRANTY CARD	UE
-	B50-3151-00	INSTRUCTION MANUAL	*
-	B59-0018-00	SERVICE STATIONS LIST	UH
-	B59-0018-00	SERVICE STATIONS LIST	UE
15 3C	B01-0171-03	PANEL ESCUTCHEON	*
16 3C	B01-0172-04	PANEL ESCUTCHEON	*
17 3C	B01-0173-04	PANEL ESCUTCHEON	*
18 1A	B04-0069-03	MESH PLATE	
19 3A	B07-0234-03	ESCUTCHEON	
20 3A	B07-0235-04	ESCUTCHEON	*
21 3D	B08-9022-04	INDICATOR	*
22 2A	B10-0268-04	FRONT GLASS	*
23 3D	B11-0005-04	FILTER	*
24 3C	B20-0467-03	DIAL CALIBRATIONS	*
25 3C	B21-0023-14	DIAL POINTER	
26 2C	B30-0158-05	LAMP	
27 3A	B30-0191-05	LED (TIMER)	*
28 2C	C91-0023-05	CERAMIC 0.01UF AC250V	
29 2F	D15-0171-03	PULLEY	
30 2E	D15-0172-04	PULLEY	
31 1D,2E	D15-0175-05	PULLEY	
32 3F	D20-0156-03	DIAL SHAFT ASSY	*
33 2C	D21-0450-03	SHAFT	*
34 2C	D22-0033-04	COUPLING	
35 1B	D32-0082-04	STOPPER	
36 1C,1D	E02-0001-05	SOCKET	
37 1B	E03-0007-05	AC OUTLET	
38 2B	E06-0501-05	DIN CONNECTOR	
39 2C	E11-0060-15	PHONE JACK (HEADPHONE)	
40 2B	E13-0415-05	PHONO JACK (TAPE,ADAPT)	
41 2B	E13-0609-05	PHONO JACK	
42 1B	E14-0107-05	PHONO PLUG	
43 2B	E29-0082-05	ANTENNA TERMINAL	
44 1B	E30-0545-05	POWER CORD	
45 1C,2C	F01-0319-04	HEAT SINK	*
46 1C,2C	F20-0134-04	INSULATING PLATE	*
47 2F	G01-0045-24	COILED SPRING	
48 2D	G10-0017-04	BLIND SHEET	
-	H01-3153-04	CARTON BOX	*
-	H10-1519-02	POLYSTYRENE FIXTURE	*
-	H20-0443-04	COVER	*M
-	H20-0449-04	COVER	*U

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Re-marks 備考
-	H20-0449-04	COVER	UE
-	H20-0449-04	COVER	H
-	H25-0078-04	BAG	
49 3A,3B	J02-0104-04	FOOT	*
50 1F,2D	J19-0506-05	PC BOARD HOLDER	
51 3A	J19-0509-04	LED HOLDER	
52 1B	J19-0564-05	LOOP ANTENNA HOLDER	
53 1B	J41-0034-05	BUSHING	
54 2E	J61-0024-05	WIRE BAND	
55 1F	J61-0045-05	WIRE BAND	
56 3C	J90-0097-03	RAIL	*
57 3A	K23-0344-04	KNOB (TUNING)	*
58 3A	K23-0347-04	KNOB (VOL,BAL,ETC)	*
59 3A	K23-0348-03	KNOB (MIC,EFECT,ETC)	*
60 3C	K23-0349-03	KNOB (TIMER)	*
61 3A	K27-0153-04	KNOB (POWER,ETC)	*
62 3A	K27-0154-04	KNOB (M.A.C)	*
63 2A	K29-0354-04	PUSHBUTTON (SPEAKER)	*
64 2A,3B	K29-0355-04	PUSHBUTTON (SELECTOR)	*
65 1D	L01-2136-05	POWER TRANSFORMER	*
66 2A,3B	N08-0127-05	DRESSED SCREW (CABINET)	
67 1B	N08-0128-25	DRESSED SCREW (GND)	
68 2E	N09-0293-05	SCREW (PULLEY)	
69 2D,3D	N29-0033-05	FASTENER	
70 2D	N29-0035-05	FASTENER	
71 2C	S33-4014-05	LEVER SWITCH (POWER)	
72 2D	S46-1008-05	LEAF SWITCH	
73 2C	S59-1041-05	SWITCH (TIMER)	
74 1B	T90-0104-05	LOOP ANTENNA	
75 1C,2C	V02-0600-00	2SB600 Q3,4	
76 1C,2C	V04-0555-00	2SD555 Q1,2	
77 2F,3D	X05-1810-80	TUNER PCB ASSY	*
78 1F	X07-1810-80	POWER AMP PCB ASSY	*
79 3E	X11-1610-80	CONTROL AMP PCB ASSY	*
80 2E	X13-2790-80	SWITCH PCB ASSY	*
81 3F	X14-1170-80	REVERBERATION PCB ASSY	*
82 2D,3D	X14-1180-80	DISPLAY PCB ASSY	*
TUNER (X05-1810-80)			
D10 -15	B30-0198-05	LED (S METER)	
D16	B30-0237-05	LED	*
D17	B30-0198-05	LED	
PL1 -5	B30-0209-05	LAMP (SELECTOR)	
PL6 -7	B30-0216-05	LAMP	
C1	C71-1710-15	CERAMIC 100PF J	
C2	C71-1718-06	CERAMIC 18PF K	
C3	C55-1710-38	CERAMIC 0.01UF Z	
C4	C71-1718-06	CERAMIC 18PF K	
C5	C71-1707-02	CERAMIC 7PF D	
C6	C71-1722-15	CERAMIC 220PF J	
C7	C91-0037-05	CERAMIC 0.47PF J	
C8 -10	C55-1710-38	CERAMIC 0.01UF Z	
C11	C63-1722-05	CERAMIC 22PF J	
C12	C55-1710-38	CERAMIC 0.01UF Z	
C13	C63-1715-05	CERAMIC 15PF J	
C14	C63-1739-05	CERAMIC 39PF J	
C15	C62-1708-02	CERAMIC 8PF D	
C16	C60-1720-05	CERAMIC 20PF J	
C17	C63-1706-02	CERAMIC 6PF D	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Re-marks 備考
C18 -23	C55-1710-38	CERAMIC 0.01UF Z	
C24	C71-1722-15	CERAMIC 220PF J	
C25	C24-1210-61	ELECTRO 10UF 16WV	
C26	C55-1710-38	CERAMIC 0.01UF Z	
C27	C24-1710-51	ELECTRO 1UF 50WV	
C28	C55-1747-38	CERAMIC 0.047UF Z	
C30 ,31	C55-1710-38	CERAMIC 0.01UF Z	
C32	C55-1747-38	CERAMIC 0.047UF Z	
C33	C24-1710-51	ELECTRO 1UF 50WV	
C34	C24-1210-71	ELECTRO 100UF 16WV	
C35	C46-1747-35	MYLAR 0.047UF J	
C36	C47-1715-25	POLYSTY 1500PF J	
C37	C25-1722-47	LL-ELEC 0.22UF 50WV	
C38	C25-1747-47	LL-ELEC 0.47UF 50WV	
C39	C24-1710-51	ELECTRO 1UF 50WV	
C40 ,41	C46-1756-25	MYLAR 0.0056UF J	
C42 ,43	C24-1210-61	ELECTRO 10UF 16WV	
C44 ,45	C25-1710-57	LL-ELEC 1UF 50WV	
C46 ,47	C25-1747-47	LL-ELEC 0.47UF 50WV	
C48 ,49	C24-1210-61	ELECTRO 10UF 16WV	
C50 ,51	C24-1210-61	ELECTRO 10UF 16WV	
C52	C24-1422-71	ELECTRO 220UF 25WV	
C53	C24-1210-61	ELECTRO 10UF 16WV	
C54	C24-1247-61	ELECTRO 47UF 16WV	
C55	C24-1233-61	ELECTRO 33UF 16WV	
C56	C24-1722-51	ELECTRO 2.2UF 50WV	
C57	C24-1222-61	ELECTRO 22UF 16WV	
C58	C24-1710-51	ELECTRO 1UF 50WV	
C59	C70-1718-05	CERAMIC 18PF J	
C60 -62	C55-1710-38	CERAMIC 0.01UF Z	
C63	C71-1703-01	CERAMIC 3PF C	
C64	C46-1710-35	MYLAR 0.01UF J	
C65 ,66	C24-1210-61	ELECTRO 10UF 16WV	
C67	C46-1710-25	MYLAR 0.001UF J	
C68	C55-1747-38	CERAMIC 0.047UF Z	
C69	C24-1210-61	ELECTRO 10UF 16WV	
C70	C24-1710-51	ELECTRO 1UF 50WV	
C71	C46-1710-35	MYLAR 0.01UF J	
C72	C55-1722-38	CERAMIC 0.022UF Z	
C73	C52-1739-16	CERAMIC 390PF K	
C74	C46-1710-35	MYLAR 0.01UF J	
C75	C55-1710-38	CERAMIC 0.01UF Z	
C76	C46-1733-35	MYLAR 0.033UF J	
C77	C55-1710-38	CERAMIC 0.01UF Z	
C78	C24-1210-61	ELECTRO 10UF 16WV	
C80 ,81	C71-1747-05	CERAMIC 47PF J	
C82 ,83	C25-1433-57	LL-ELEC 3.3UF 25WV	
C84 ,85	C24-1047-61	ELECTRO 47UF 10WV	
C86 ,87	C71-1710-15	CERAMIC 100PF J	
C88 ,89	C71-1733-06	CERAMIC 33PF K	
C90 ,91	C46-1710-35	MYLAR 0.01UF J	
C92 ,93	C46-1727-25	MYLAR 0.0027UF J	
C94 ,95	C25-1447-57	LL-ELEC 4.7UF 25WV	
C96 ,97	C24-1410-71	ELECTRO 100UF 25WV	
C100,101	C46-1782-25	MYLAR 0.0082UF J	
C102,103	C46-1715-35	MYLAR 0.015UF J	
C104,105	C46-1747-25	MYLAR 0.0047UF J	
C106	C24-1710-51	ELECTRO 1UF 50WV	
C107	C24-1222-61	ELECTRO 22UF 16WV	
C108	C71-1705-01	CERAMIC 5PF C	
C109	C24-1233-61	ELECTRO 33UF 16WV	
TC1	C05-0055-05	TRIMMER CAPACITOR	

Ref. No. 参照番号
CF1 -3
CF4
L1
L2
L3
L4
L5
L6
L7
L8 ,9
L10
L11
L12
L13
R58 ,59
R111
VR1
VR2
S1
S2
S3
D1
D2 -9
D18 -21
D22
IC1
IC2
IC3
IC4
IC6 ,7
Q1
Q2
Q3
Q4
Q5
Q6 ,7
Q8 ,9
Q10 -12
Q13
Q14
Q15
Q16
Q17 -20
Q21
Q22
Q23
Q24 -27
POW
C1 ,2
C3 ,4
C5 ,6
C7 ,8
C9 ,10
C11 ,12
C13 ,14
C15 ,16
C17 ,18
C19 ,20
C21 ,22
C23 ,24
C25 ,26

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
CF1 -3	L72-0052-15	CERAMIC FILTER	
CF4	L72-0030-05	CERAMIC FILTER	
L1	L31-0361-05	RF COIL	
L2	L31-0410-05	RF COIL	
L3	L40-1091-41	INDUCTOR	
L4	L32-0210-05	OSCILLATING COIL	
L5	L30-0282-05	IFT	
L6	L30-0316-05	IFT	
L7	L30-0317-05	IFT	
L8 ,9	L79-0126-05	FILTER	*
L10	L31-0458-05	RF COIL	*
L11	L32-0225-05	OSCILLATING COIL	
L12	L30-0284-05	IFT	
L13	L40-1021-03	INDUCTOR	
R58 ,59	R40-8310-67	RC 10M M 2H	
R111	R40-8310-67	RC 10M M 2H	
VR1	R12-1040-05	TRIMMING POTENTIOMETER	
VR2	R12-1038-05	TRIMMING POTENTIOMETER	
S1	S42-5010-05	PUSH SWITCH	
S2	S42-3038-05	PUSH SWITCH	*
S3	S31-2048-05	SLIDE SWITCH	
D1	V11-3100-50	1S2236	*
D2 -9	V11-0271-05	1S2076	
D18 -21	V11-0271-05	1S2076	
D22	V11-0271-05	1S2076	
IC1	V30-0192-05	HA1137W-05	
IC2	V30-0244-10	LA3350S-L6	
IC3	V30-0405-10	AN6552	
IC4	V30-0245-10	LA1240	
IC6 ,7	V30-0264-30	HA1457W	
Q1	V09-0124-10	2SK61	
Q2	V03-0535-10	2SC535(A,B)	
Q3	V03-0357-05	2SC1342(A)	
Q4	V09-0124-10	2SK61	
Q5	V03-1923-00	2SC1923	
Q6 ,7	V03-1845-20	2SC1845(F,E,U)	
Q8 ,9	V09-0126-60	2SK117(Y,GR,BL)	
Q10 -12	V03-0348-05	2SC945(Q,P)	
Q13	V01-0733-40	2SA733(A)(Q,P)	
Q14	V09-0144-60	2SK163(L,M)	
Q15	V03-0348-05	2SC945(Q,P)	
Q16	V01-0733-40	2SA733(A)(Q,P)	
Q17 -20	V03-0348-05	2SC945(Q,P)	
Q21	V01-0733-40	2SA733(A)(Q,P)	
Q22	V03-0348-05	2SC945(Q,P)	
Q23	V01-0992-10	2SA992(F,E)	
Q24 -27	V03-0348-05	2SC945(Q,P)	
POWER AMP (X07-1810-80)			
C1 ,2	C71-1710-15	CERAMIC 100PF J	
C3 ,4	C46-1710-26	MYLAR 0.001UF K	
C5 ,6	C24-1010-71	ELECTRO 100UF 10WV	
C7 ,8	C24-1733-51	ELECTRO 3.3UF 50WV	
C9 ,10	C71-1715-06	CERAMIC 15PF K	
C11 ,12	C71-1707-02	CERAMIC 7PF D	
C13 ,14	C71-1710-15	CERAMIC 100PF J	
C15 ,16	C71-1722-06	CERAMIC 22PF K	
C17 ,18	C24-2010-51	ELECTRO 1UF 100WV	
C19 ,20	C71-1705-01	CERAMIC 5PF C	
C21 ,22	C71-1722-15	CERAMIC 220PF J	
C23 ,24	C46-1747-35	MYLAR 0.047UF J	
C25 ,26	C24-1710-51	ELECTRO 1UF 50WV	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
C27 -30	C24-2047-61	ELECTRO 47UF 100WV	
C31 ,32	C71-1768-06	CERAMIC 68PF K	
C41	C24-1222-71	ELECTRO 220UF 16WV	
C42	C24-1733-51	ELECTRO 3.3UF 50WV	
C43	C46-1710-35	MYLAR 0.01UF J	
C44	C25-1447-67	LL-ELEC 47UF 16WV	
C45	C46-1710-35	MYLAR 0.01UF J	
C46	C26-1410-67	NP-ELEC 10UF 25WV	
C47	C26-1447-57	NP-ELEC 4.7UF 25WV	
C48	C24-1247-61	ELECTRO 47UF 16WV	
C49 ,50	C24-1447-61	ELECTRO 47UF 25WV	
C51	C24-1233-89	ELECTRO 3300UF 16WV	
C52	C24-1010-81	ELECTRO 1000UF 10WV	
C53 -56	C54-2710-39	CERAMIC 0.01UF P	
C57	C90-0473-05	ELECTROLYTIC CAPACITOR	*
C58	C24-1210-61	ELECTRO 10UF 16WV	
F1	F05-8021-05	FUSE	
F2	F05-4022-05	FUSE	
F3	F05-3022-05	FUSE	
L1 -4	L40-1011-03	INDUCTOR	
L5 ,6	L39-0085-05	COIL	
R35 ,36	R43-1268-05	FL-PROOF RD68 J 2E	
R37 ,38	R47-1482-25	FL-PROOF RS8.2K J 3A	
R39 ,42	R43-1215-15	FL-PROOF RD150 J 2E	
R45 ,46	R43-1212-15	FL-PROOF RD120 J 2E	
R47 -50	R43-1247-95	FL-PROOF RD4.7 J 2E	
R51 -54	R92-0167-05	FIXED RESISTOR	
R55 ,56	R47-1647-95	FL-PROOF RS4.7 J 3F	
R63 ,64	R47-1410-05	FL-PROOF RS10 J 3A	
R96	R47-1610-25	FL-PROOF RS1K J 3F	
R104	R47-1415-25	FL-PROOF RS1.5K J 3A	
R105	R47-1556-15	FL-PROOF RS560 J 3D	
R107	R40-8382-26	RC 8.2K K 2H	
R108	R47-1515-25	FL-PROOF RS1.5K J 3D	
VR1 ,2	R12-0502-05	TRIMMING POTENTIOMETER	
VR3 ,4	R12-0052-05	TRIMMING POTENTIOMETER	
RL1	S51-2038-05	RELAY	
S1	S31-2046-05	SLIDE SWITCH	
D1 ,2	V11-0462-05	EQA01-05(S)	
D3 -6	V11-0051-05	1N60	
D7 ,8	V11-0271-05	1S2076	
D9 ,10	V11-5100-40	STV-4H(G)	
D15 -18	V11-0273-05	1S2076A	
D19 -21	V11-0271-05	1S2076	
D22	V11-0295-05	W06B	
D23	V11-9979-05	WZ-162	
D24	V11-4100-30	WZ-197	
D25 ,26	V11-0295-05	W06B	
D27	V11-2100-80	M4C-51-13*2	
Q1 ,2	V09-0145-10	UPA68H	
Q3 -6	V03-0297-05	2SC945	
Q7 ,8	V03-2259-10	2SC2259	
Q9 -12	V01-0199-05	2SA899(B,V)	
Q13 ,14	V03-0460-05	2SC1904(B,V)	
Q15 ,16	V03-2591-10	2SC2591(Q,R)	
Q17 ,18	V01-1111-10	2SA1111(Q,R)	
Q19 ,20	V03-2378-00	2SC1845	
Q21	V01-1023-00	2SA1023	
Q22 -24	V03-0297-05	2SC945	
Q25	V01-0954-00	2SA954	

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
Q26 ,27	V03-0297-05	2SC945	
Q28	V04-0762-00	2SD762	
Q29 ,30	V03-0297-05	2SC945	
Q31 ,32	V01-0733-90	2SA733(A)	
CONTROL AMP (X11-1610-80)			
-		HEAT SINK	
-		MOUNTING HARDWARE	*
C1 ,2	C71-1733-16	CERAMIC 330PF J	
C3 ,4	C25-6522-57	LL-ELEC 2.2UF 35WV	
C5 ,6	C25-1447-57	LL-ELEC 4.7UF 25WV	
C7 ,8	C71-1710-15	CERAMIC 100PF J	
C9 -12	C71-1722-06	CERAMIC 22PF J	
C13 ,14	C25-1447-57	LL-ELEC 4.7UF 25WV	
C15 ,16	C52-1715-26	CERAMIC 0.0015UF K	
C17 ,18	C71-1710-15	CERAMIC 100PF J	
C19 ,20	C25-1747-47	LL-ELEC 0.47UF 50WV	
C21 ,22	C46-1712-35	MYLAR 0.012UF J	
C23 ,24	C25-1722-47	LL-ELEC 0.22UF 50WV	
C25 ,26	C46-1768-25	MYLAR 0.0068UF J	
C27 ,28	C46-1782-35	MYLAR 0.082UF J	
C29 ,30	C46-1727-25	MYLAR 0.0027UF J	
C31 ,32	C46-1733-35	MYLAR 0.033UF J	
C33 ,34	C46-1710-25	MYLAR 0.001UF J	
C35 ,36	C46-1712-35	MYLAR 0.012UF J	
C37 ,38	C52-1747-16	CERAMIC 470PF K	
C39 ,40	C46-1756-25	MYLAR 0.0056UF J	
C41 ,42	C71-1718-16	CERAMIC 180PF J	
C43 ,44	C46-1722-25	MYLAR 0.0022UF J	
C45 ,46	C71-1768-06	CERAMIC 68PF J	
C61	C24-1733-61	ELECTRO 33UF 50WV	
C62	C24-1710-51	ELECTRO 1UF 50WV	
C63	C24-1010-71	ELECTRO 100UF 10WV	
C64	C24-1447-61	ELECTRO 47UF 25WV	
C65	C24-1047-61	ELECTRO 47UF 10WV	
C66	C24-1733-61	ELECTRO 33UF 50WV	
C67	C24-1710-51	ELECTRO 1UF 50WV	
C68	C24-1247-61	ELECTRO 47UF 16WV	
C69	C24-1733-61	ELECTRO 33UF 50WV	
C70	C24-1710-51	ELECTRO 1UF 50WV	
C71	C24-1447-61	ELECTRO 47UF 25WV	
C72	C24-1710-51	ELECTRO 1UF 50WV	
C73	C24-1247-61	ELECTRO 47UF 16WV	
-	G10-0017-04	BLIND SHEET	
-	G10-0018-04	BLIND SHEET	
R91 ,92	R47-1533-15	FL-PROOF RS330 J 3D	
R93 ,94	R47-1568-15	FL-PROOF RS680 J 3D	
R101	R40-8318-16	RC 180 K 2H	
R103-105	R47-1556-15	FL-PROOF RS560 J 3D	
R106	R47-1610-25	FL-PROOF RS1K J 3F	
R111	R47-1633-15	METAL OXID FILM RESISTO	
R112	R47-1547-15	FL-PROOF RS470 J 3D	
R121	R40-8368-16	RC 680 K 2H	
VR1	R06-5039-05	POTENTIOMETER	
VR2	R08-5047-05	POTENTIOMETER	*
VR3 -9	R13-3009-05	POTENTIOMETER	*
S1	S33-2035-05	LEVER SWITCH	
D1	V11-7101-50	EQA01-10(R)	
IC1 ,2	V30-0264-30	HA1457W	
Q1 -16	V03-1845-20	2SC1845(F,E,U)	
Q17	V04-0762-00	2SD762	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Remarks 備考
Q18 ,19	V03-0297-05	2SC945	
Q20	V03-2003-00	2SC2003	
Q21	V04-0613-00	2SD613	
Q22 ,23	V03-0297-05	2SC945	
Q24	V04-0762-00	2SD762	
Q25 ,26	V01-0733-90	2SA733(A)	
Q27	V01-0954-00	2SA954	
Q28	V01-0733-90	2SA733(A)	
SWITCH (X13-2790-80)			
C1 ,2	C25-1722-47	LL-ELEC 0.22UF 50WV	
C3 ,4	C46-1718-35	MYLAR 0.018UF K	
-	E20-1206-05	SPEAKER TERMINAL	
R1 ,2	R47-1456-15	FL-PROOF RS560 J 3A	
R5 ,6	R47-1415-25	FL-PROOF RS1.5K J 3A	
R7 ,8	R40-8356-16	RC 560 K 2H	
S1	S42-3040-05	PUSH SWITCH	*
S2	S42-3041-05	PUSH SWITCH	*
REVERBERATION (X14-1170-80)			
-	029-2662-05	STRANDED WIRE	
C1	C71-1710-15	CERAMIC 100PF J	
C2	C24-1710-51	ELECTRO 1UF 50WV	
C3	C71-1710-15	CERAMIC 100PF J	
C4	C24-1047-61	ELECTRO 47UF 10WV	
C5	C71-1739-16	CERAMIC 390PF K	
C6	C24-1210-61	ELECTRO 10UF 16WV	
C7 ,8	C24-1710-51	ELECTRO 1UF 50WV	
C9 ,10	C24-1210-61	ELECTRO 10UF 16WV	
C11	C24-1733-51	ELECTRO 3.3UF 50WV	
C12	C46-1782-25	MYLAR 0.0082UF J	
C13	C46-1715-35	MYLAR 0.015UF J	
C14	C46-1710-25	MYLAR 0.001UF J	
C15	C46-1722-35	MYLAR 0.022UF J	
C16	C71-1739-16	CERAMIC 390PF K	
C17 ,18	C24-1733-51	ELECTRO 3.3UF 50WV	
C19	C24-1210-61	ELECTRO 10UF 16WV	
C20	C71-1710-15	CERAMIC 100PF J	
C21 ,22	C52-1710-26	CERAMIC 0.001UF K	
C23	C24-1733-51	ELECTRO 3.3UF 50WV	
C24	C46-1782-25	MYLAR 0.0082UF J	
C25	C46-1715-35	MYLAR 0.015UF J	
C26	C46-1710-25	MYLAR 0.001UF J	
C27	C46-1722-35	MYLAR 0.022UF J	
C28	C71-1739-16	CERAMIC 390PF K	
C29	C24-1733-51	ELECTRO 3.3UF 50WV	
C30 ,31	C24-1710-51	ELECTRO 1UF 50WV	
C32	C24-1733-51	ELECTRO 3.3UF 50WV	
C33	C24-1710-51	ELECTRO 1UF 50WV	
C34	C24-1047-61	ELECTRO 47UF 10WV	
C35	C24-1733-51	ELECTRO 3.3UF 50WV	
C36	C24-1210-61	ELECTRO 10UF 16WV	
C37	C24-1710-51	ELECTRO 1UF 50WV	
C38	C24-1047-61	ELECTRO 47UF 10WV	
C39 ,40	C24-1710-51	ELECTRO 1UF 50WV	
C41 ,42	C24-1733-51	ELECTRO 3.3UF 50WV	
C43 ,44	C24-1733-51	ELECTRO 3.3UF 50WV	
C45 ,46	C24-1210-61	ELECTRO 10UF 16WV	
C47	C24-1222-71	ELECTRO 220UF 16WV	
C48 ,49	C24-1210-71	ELECTRO 100UF 16WV	
C50	C71-1710-15	CERAMIC 100PF J	

PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名／規格	Re-marks 備考
-	E11-0065-05	PHONE JACK (MIC)	
VR1	R06-4046-05	POTENTIOMETER	*
VR2	R06-5056-05	POTENTIOMETER	*
VR3 ,4	R01-5030-05	POTENTIOMETER	*
S1	S29-1126-05	ROTARY WAFER SWITCH	*
S2	S29-1127-05	ROTARY WAFER SWITCH	*
S3	S33-4018-05	LEVER SWITCH	
D1 -5	V11-0271-05	1S2076	
IC1 -4	V30-0405-10	AN6552	
IC5	V30-0471-10	MN3101	*
IC6	V30-0470-10	MN3008	*
Q1 -10	V03-0270-05	2SC945(R,Q)	
DISPLAY (X14-1180-80)			
PL1 -7	B30-0234-05	LAMP	
PL8 ,9	B30-0075-05	LAMP 8V 0.3A	
PL10,11	B30-0233-05	LAMP 8V 0.2A	
PL12,13	B30-0075-05	LAMP 8V 0.3A	
-	C71-1733-06	CERAMIC 33PF 50WV	
C1 ,2	C24-1710-51	ELECTRO 10UF 50WV	
C3 ,4	C24-1210-61	ELECTRO 10UF 16WV	
C5 ,6	C24-1710-51	ELECTRO 10UF 50WV	
C7	C24-1210-61	ELECTRO 10UF 16WV	
C8	C24-1022-61	ELECTRO 22UF 10WV	
C9 -11	C24-1210-61	ELECTRO 10UF 16WV	
C12	C55-1747-38	CERAMIC 0.047UF Z	
C13 ,14	C63-1727-05	CERAMIC 27PF J	
C15 ,16	C55-1710-38	CERAMIC 0.01UF Z	
C17	C71-1710-15	CERAMIC 100PF J	
C18 -21	C52-1715-26	CERAMIC 0.0015UF K	
C22	C55-1747-38	CERAMIC 0.047UF Z	
C23	C71-1733-05	CERAMIC 33PF J	
C24	C52-1715-26	CERAMIC 0.0015UF K	
C25	C24-1210-61	ELECTRO 10UF 16WV	
C26	C52-1756-16	CERAMIC 560P K	
C27 ,28	C52-1715-26	CERAMIC 0.0015UF K	
C29	C24-1210-61	ELECTRO 10UF 16WV	
C30	C55-1747-38	CERAMIC 0.047UF Z	
L1	L40-1021-13	INDUCTOR 1MH K	
L3	L40-1021-03	INDUCTOR 1MH K	
X1	L77-0574-05	CRYSTAL RESONATOR	*
R7	R47-5447-05	FL-PROOF RS 47 J 3A	
R20	R47-5482-05	FL-PROOF RS 82 J 3A	
VR1 -4	R12-3030-05	TRIMMING POT. 10K	
VR5	R12-3045-05	TRIMMING POT. 10K	
D1 -4	V11-0051-05	1N60	
D5 -8	V11-0076-05	1S1555	
D5 -8	V11-0271-05	1S2076	
D9	V11-4176-76	XZ-057	
D10	V11-0076-05	1S1555	
D10	V11-0271-05	1S2076	
FL1	V40-4400-10	FL DISPLAY (POWER)	
FL2	V40-4400-20	FL DISPLAY (FREQUENCY)	
IC1 ,2	V30-0347-10	BA658	
IC3	V30-0474-10	LC7258	
IC4	V30-1005-26	SN74LS90N OR F74LS90PC	
IC5	V30-0409-10	AN6821	
Q1 -3	V03-0293-05	2SC945 (R,Q)	
Q1 -3	V03-2320-20	2SC2320 (E,F)	
Q4 -6	V03-2003-30	2SC2003	
Q7 ,8	V03-0293-05	2SC945 (R,Q)	
Q7 ,8	V03-2320-20	2SC2320 (E,F)	